Context

Built, Living and Natural

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About the Volume

This issue of Context provides fresh perspectives of looking at cultural landscapes and history. Amita Sinha presents a new approach for a modernising society in transition such as India, where she proposes 'natural archetypes as keystones of conservation planning and design at pilgrim sites', with an attempt to achieve a coherent place identity. Surbhi Gupta challenges the bias in recording history and proposes a more responsible methodology for the historians of today, where 'history can take the initiative of becoming more than a narrative or sequence of events, situations and practices'.

Besides these contemplative approaches, articles in this issue focus on establishing significance of the traditional water harnessing systems of Dholavira and pre independence planning of water bodies and open spaces in Hyderabad. The architectural richness and embodied traditional systems of the havelis and chhattas of Saharanpur are revealed by OC Handa. An exploration of the use of visual documentation as a tool for conservation comes through the article on Kolkata. Also, a legal overview of post independence growth of Delhi is presented, highlighting important legislations and legal mechanisms that fundamentally affect the city.

In the section on sustainable solutions; Geetam Tiwari and Himani Jain argue for bicycles as a suitable mode of transport for Indian cities and call for bicycle compatibility in the urban environment. Anshu Meshack analyses the tourism impact in Andaman Islands and charters a greater involvement of the locals along with an appropriate sensitivity to the unparalleled ecological wealth.

The book review by Meeta Khilnani looks at one of the most pressing concerns of the nation today; the condition of the holy river Ganges.

The need for documenting our urban and rural heritage is elaborated through the initial articles on Kasaba Ganapati temple and Budaun, while the heritage album on Narnaul presents the rich architecture of the historic place.

- Shikha Jain

Compiling Records

Kasaba Ganapati Temple, Pune

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Budaun Piranshahr
The City of Saints

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Kasaba Ganapati Temple, Pune

PARAG GOVARDHAN NARKHEDE

ABSTRACT

The Kasaba Ganapati Temple is amongst the oldest existing built structures of Pune and is a significant component of the cultural heritage of the city. The transformations; observed in this temple, are a reflection of the development of the local temple form in Pune. The juxtaposition of its various façade elements reveals a range of architectural styles through the times. The current interventions in the temple point towards the need for establishing a comprehensive understanding of the site; through research and documentation, subsequently leading to a sensitive conservation approach for the site.
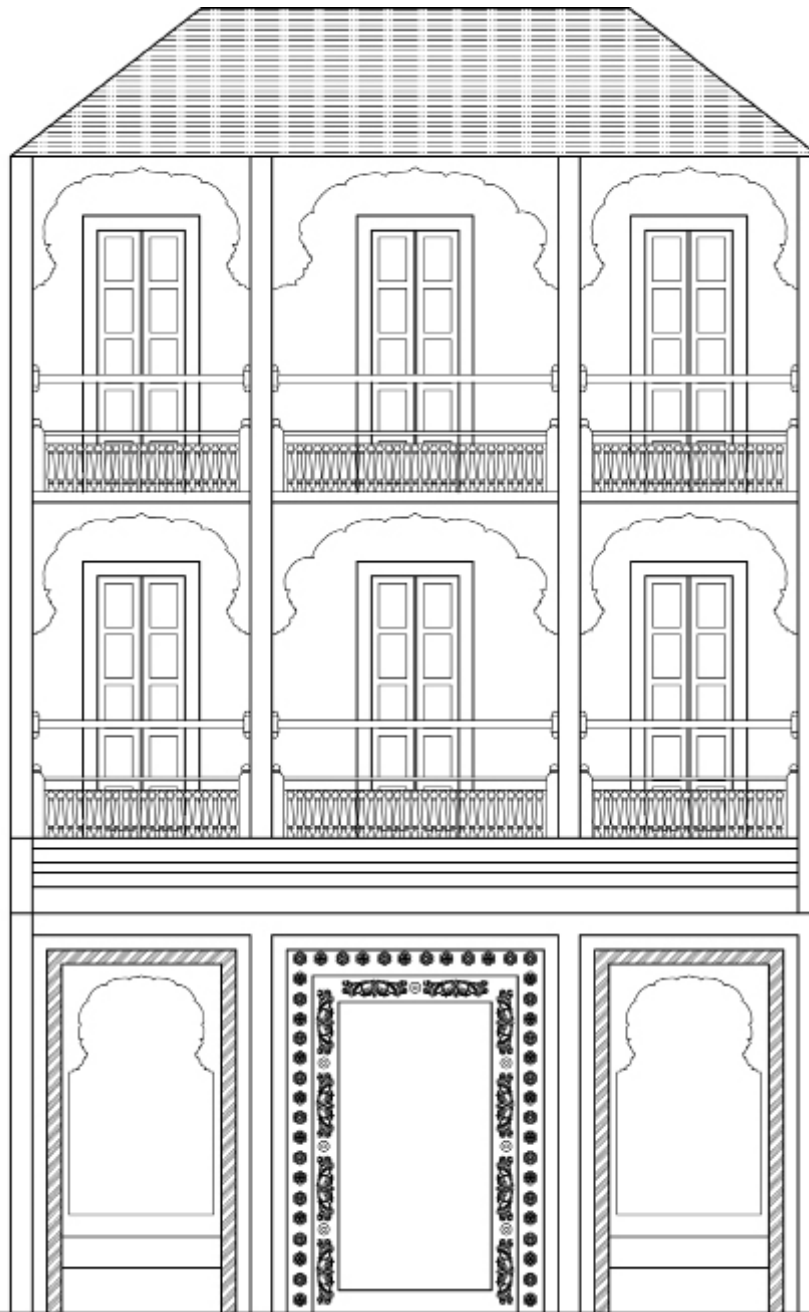
Front elevation

INTRODUCTION

Kasaba Ganapati, the oldest existing temple of Pune dating from the 17th century is situated in the area called Kasaba Peth, located in the heart of the city. Kasaba Peth is the oldest inhabited portion of the city where three original villages, namely Kasarli, Kumbharli, Punewadi collectively form the new Pune. The Kasaba grew organically, to develop a system of *wadas* (courtyard housing) as sub units of the *peth* (a colony), housing specific communities with their own deities and temples.

The temple was constructed around 1636 AD at the time of Shahaji Raje and Jijabai. The two temples Kasaba Ganapati and Kedareshwar temple are said to be the original nucleus of the city and while the Kedareshwar Temple was rebuilt during the period of Peshwa Bajirao (1720-1740 AD), the Kasaba Ganapati Temple retains parts of its original fabric. The temple owned by Kasaba Ganapati Charitable Trust, is the city's religious focal point, being the *gram devata* (deity of a village) of Pune, visited by large number of devotees from the city and the state of Maharashtra. On specific festive days like Angaraki Chaturthi, Ganesh Festival, Sankashti and Vinayaki, the numbers of devotees are even higher.

TEMPLE FORM AND CONSTRUCTION

The typical temple form of the Kasaba Ganapati Temple with a *sabhamandapa* (pillared hall) and *garbhagriha* (inner sanctuary)
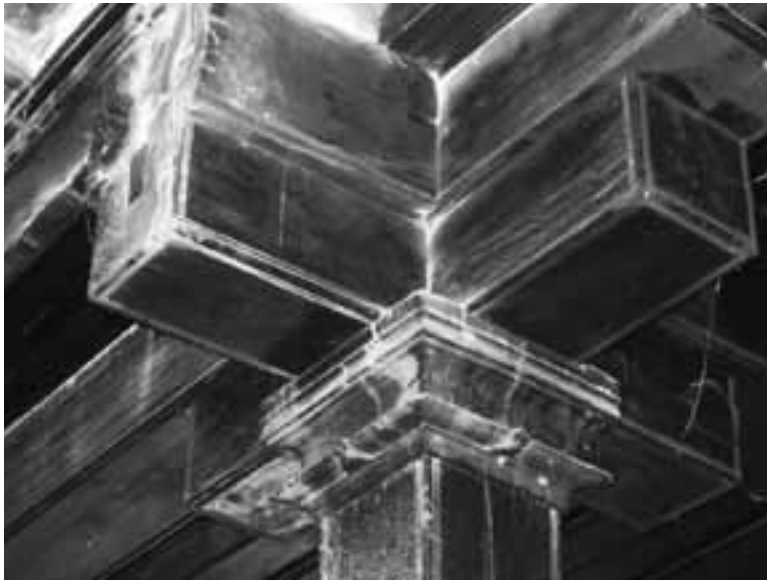
Joining detail of wooden column and beam in Osari

topped by a *shikhara* (spire), is obscured from vision, as the visitor enters through a triple storeyed structure. The central temple form is enclosed by a two storeyed built form topped by galvanised iron (GI) sheets, that has a residential street character. The inner sanctuary and pillared hall are surrounded by a *pradakshina-path* (circumambulatory path) used by the devotees, further surrounded by verandahs called *otta* or *osari*. The materials and architectural styles suggest three distinct stages of development. The first layer is seen in the trabeate stone construction as in the *garbhagriha* that according to historical information dates from

North

First floor plan

North
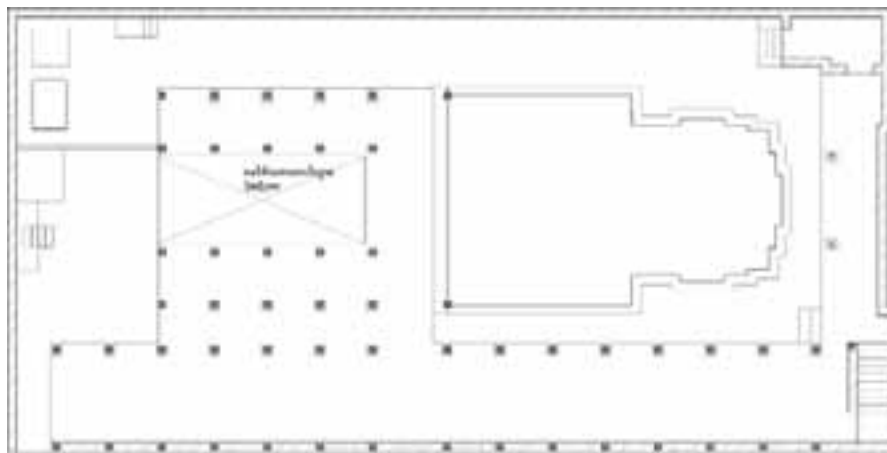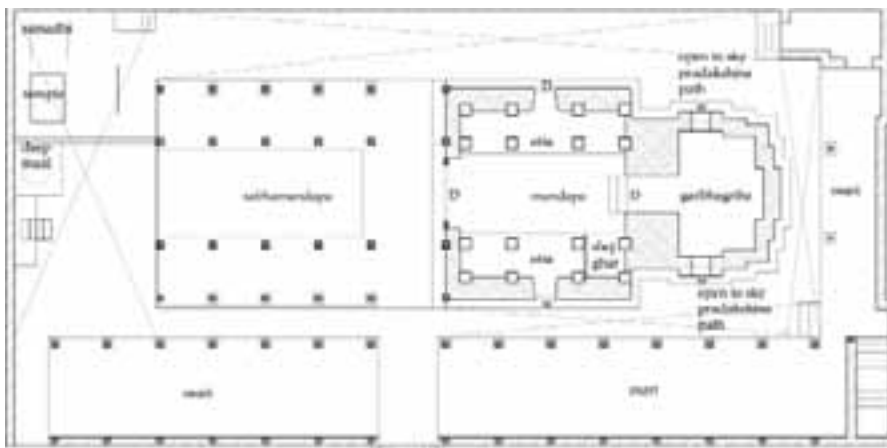
Ground floor plan
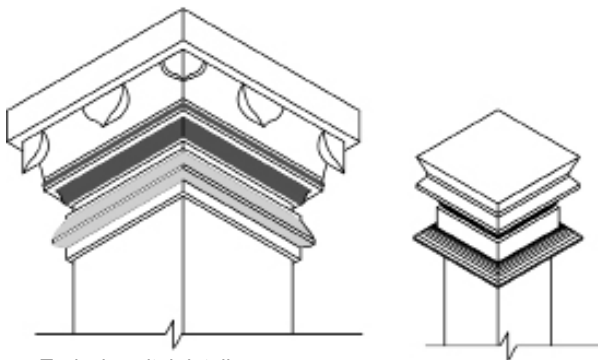
Typical capital detail

early 17th century; the second is from the Peshwa period (early 18th century) with wooden decorative elements (such as the ceiling, arches and brackets) representing the vernacular vocabulary, while the third layer is from the colonial period.

The primary construction materials used are stone, wood and brick masonry; the *garbhagriha* constructed in stone, the *sabhamandapa* with wooden engravings in a decorative style and brick masonry used in the outer enclosure walls and upper floors.

Deepmala in stone
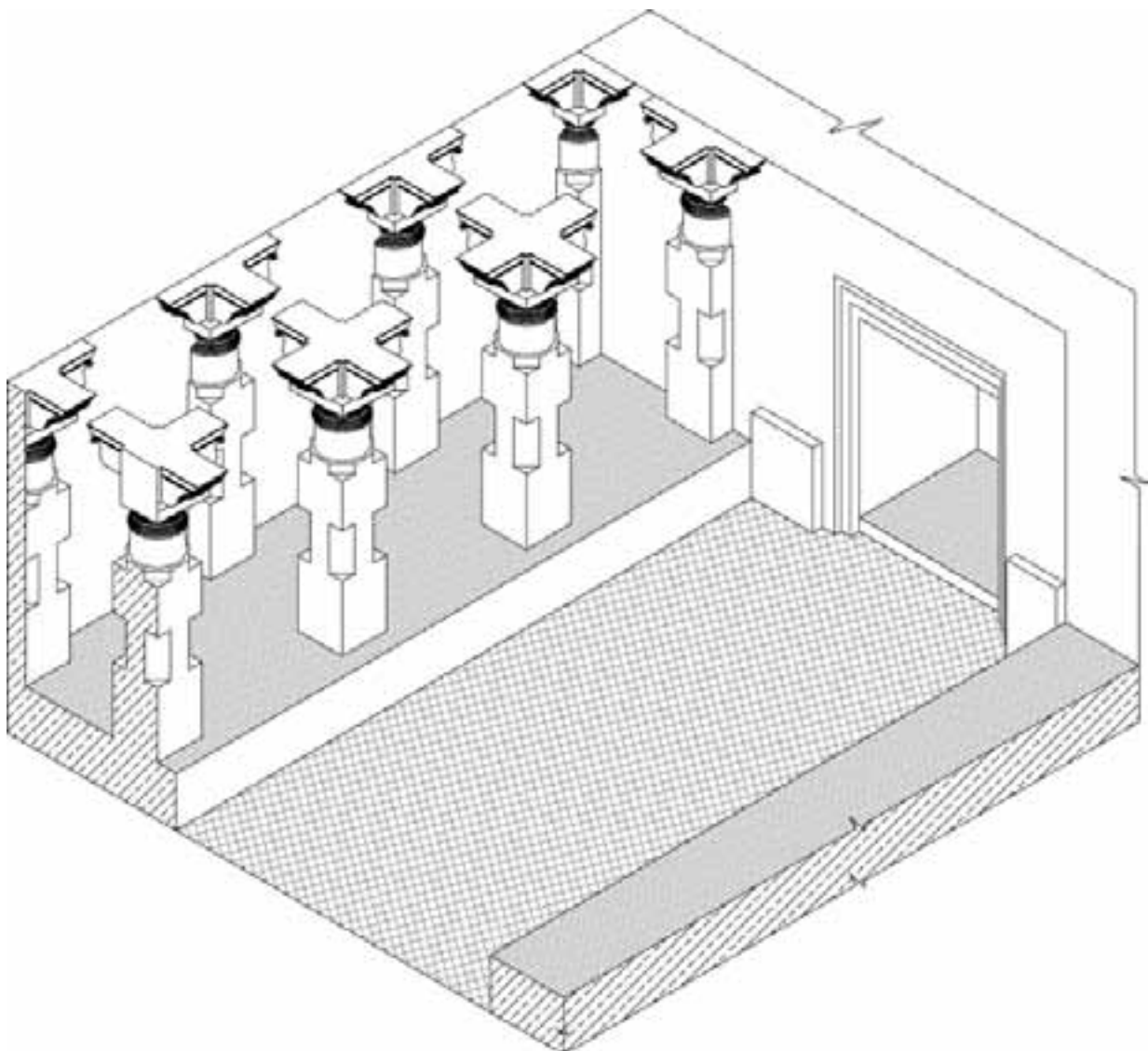
Isometric view of interior

VISITOR INFORMATION

The daily, monthly and annual visitor trends as understood through surveys and data provided by the Temple Trust reflect that there are distinct peak hours, week days and festival days in the year. While the peak hours are six to nine in the morning and evening, the peak day is Tuesday as it is considered to be the day of Lord Ganesha, when the number of visitors reaches as high as 1000. The important festivals related to the deity Lord Ganesha increase the number of visitors per day further; for example, on days like Sankashti Chaturthi the peak goes upto 1500-2000. Annual events like Ganeshotsav (11days in August/ September) and Ganesha Jayanti in January or February also have shown total visitors up to 2500-3000 per day. It is important to address the visitor traffic in peak periods on the structure. On the other hand, the upper floors of the
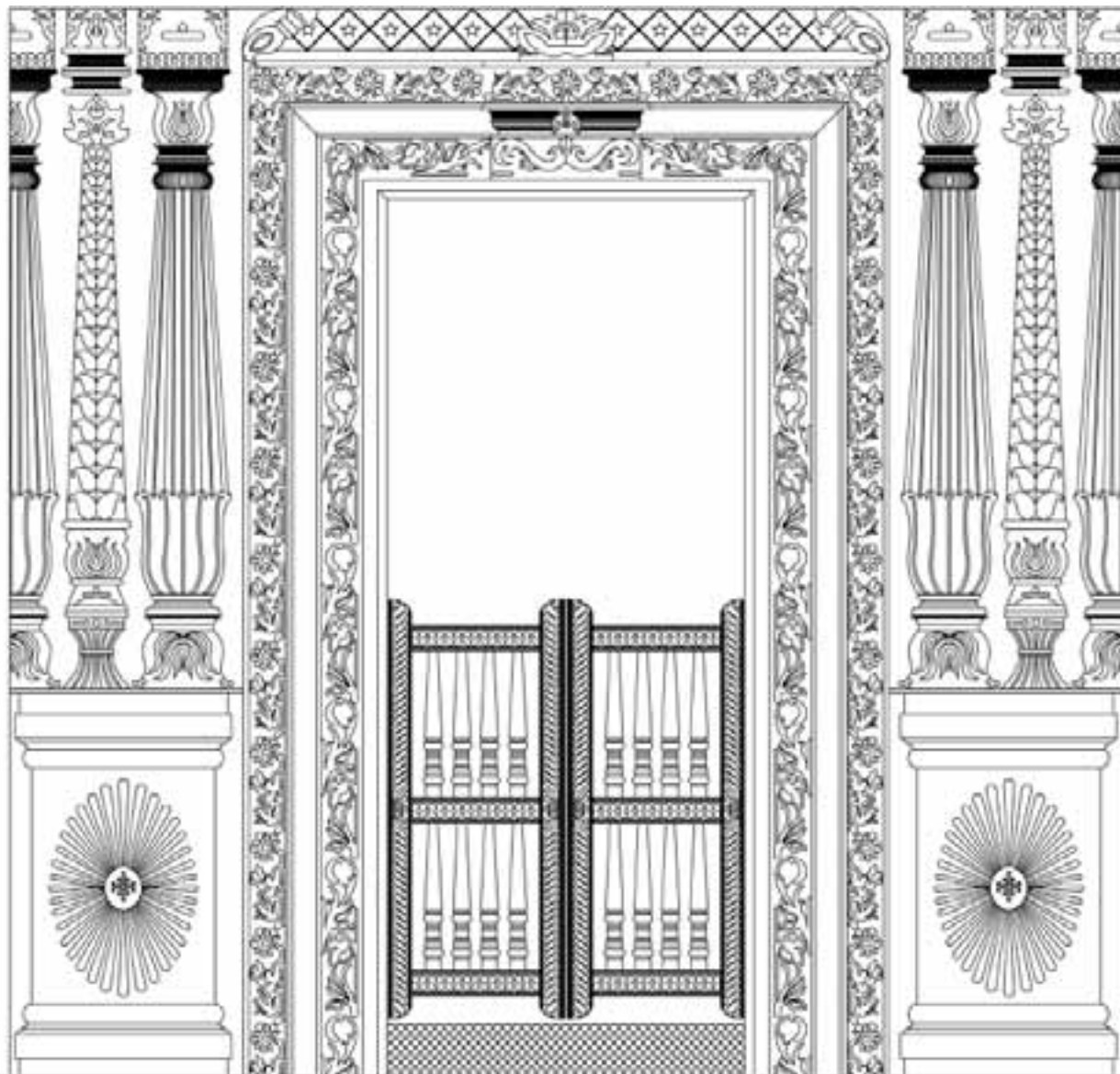
Doorway detail
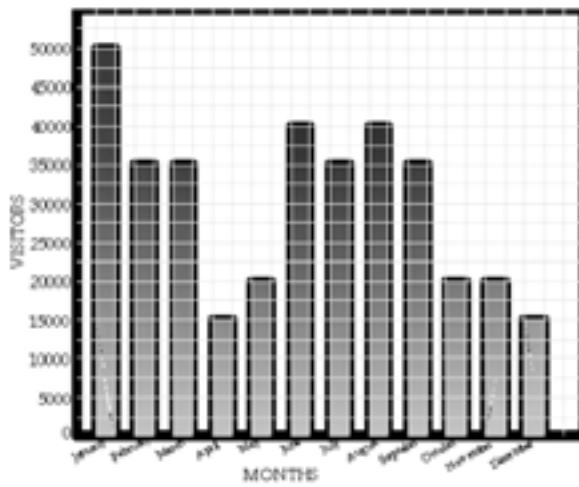
Monthly visiting devotees
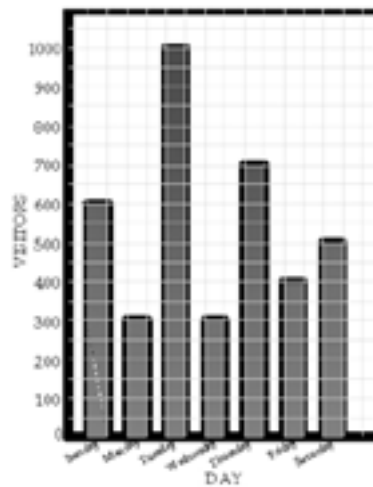
Daily visiting devotees
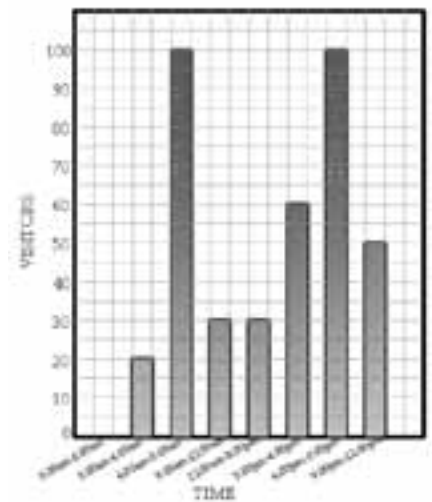
Hourly visiting devotees

Plan of the sabhamandapa
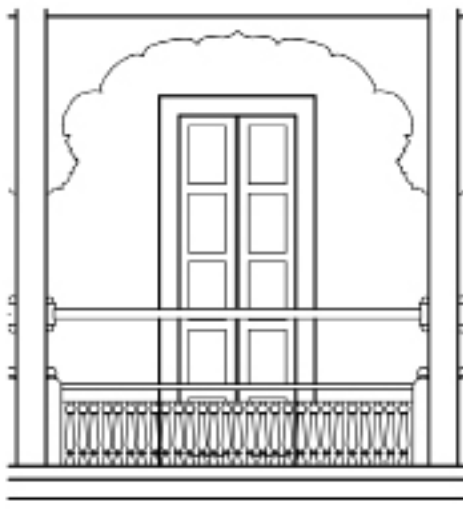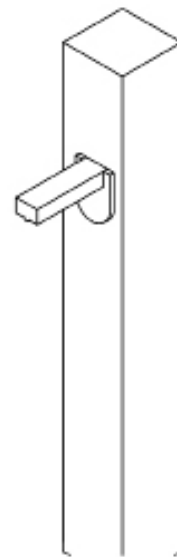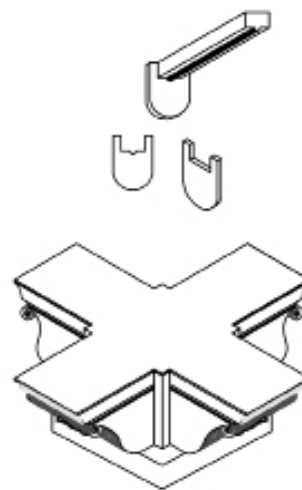
Window detail
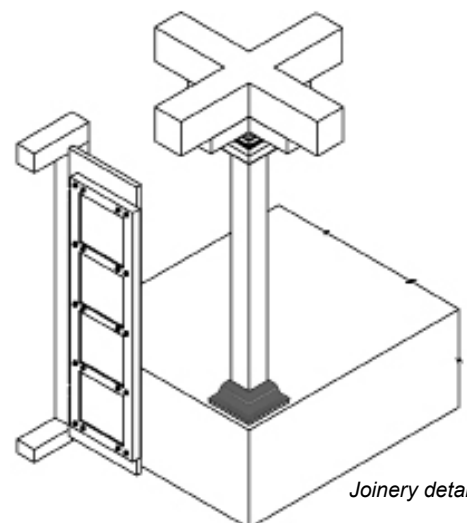
Joinery detail

View of osari

temple that were previously used for hosting religious symposiums and gatherings, though on a controlled scale have a much reduced usage. The frequency of such events is very less, and thus most of the times in a year this section is just closed. While the ground floor of the temple faces high traffic during important religious occasions, the upper floors are rarely used.

CONDITION ASSESSMENT

The historic structure is under stress, with ageing wooden beams that show sagging and dilapidating elements such as the stone *deepmala* and parts of the columns in the s*abhamandapa*. Certain spans under structural stress, in the rear part of the *garbhagriha* have been propped by metal columns to take the load of upper floors, while the staircase leading to upper floors needs strengthening. Later interventions such as the rusting GI sheets roofing; ceramic tiles cladding

and oil paint on the stone masonry surfaces, exposed storm water drain pipes and electric circuit boards, have resulted in loss of visual character and authenticity of the built fabric. Also, as the temple has gone through developmental phases in history, the intervention would need to study and address each as a significant historic layer. While the physical conservation of the structure is one important aspect that needs attention, there are other pressing issues such as visitor management especially on the peak visitor days and appropriate adaptive reuse of the space.

CONCLUSION

The issues faced by the temple suggest the need for appropriate comprehensive conservation and management of the temple and the surrounding area affected by visitor movement. The ownership of the temple being under a charitable trust, any initiatives for its maintenance and management require a consultative process involving the trust members, along with creating a dialogue with the city and community level stakeholders. Hence, the Kasaba Ganapati Temple, that is an important component of the cultural heritage of the city of Pune, calls for conservation measures in a scientific manner to ensure the continuity of its high historic and religious significance.

An aerial view of Shikhara

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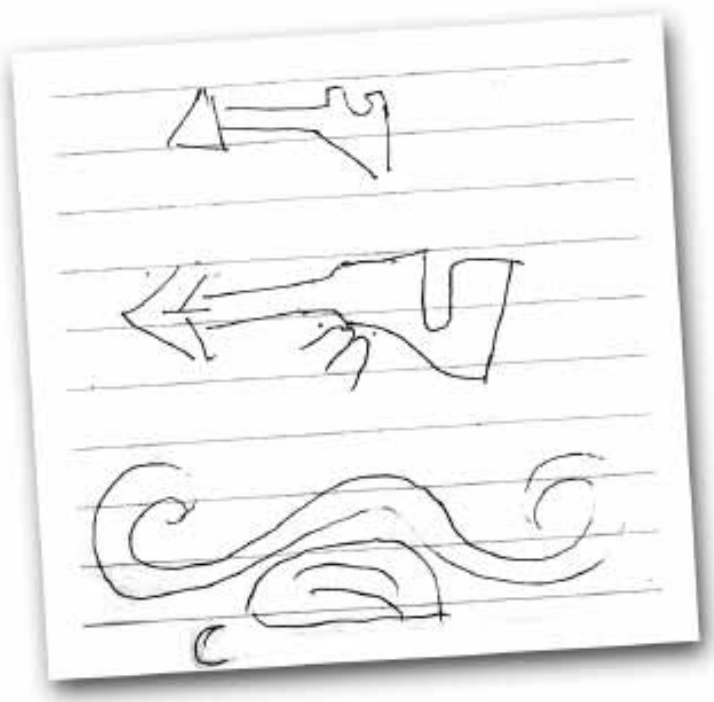
Budaun Piranshahr
The City of Saints

JINISHA JAIN

ABSTRACT

Budaun a town and headquarters of the district with the same name is located east of the capital Delhi in the north-central Uttar Pradesh State of India with a population of over one and a half lakh. Budaun and many such wee towns of Uttar Pradesh hardly figure on any of its pilgrim loops, tourist destination maps or any other 'useful' map for that matter. But this ghost town was once on the crossroads of history. It was a thriving spiritual, intellectual and creative centre of all forms of learning and was the renowned abode of saints, sufis, scholars, writers, poets, musicians and all kinds of men par excellence. Now eclipsed by the ravages of times and a disheveled political scene, the curious town still conceals a history of over thousand years and anecdotes of some of the most popular and influential historical personalities including Shams-ud-din Iltutmish, Hazrat Khwaja Nizam-ud-din Auliya, Alauddin Alam Shah Sayyid and Mulla Abdul Qadir 'Budauni'.

Top: Mason's marking on the tombs, bottom: Surface decoration in brick on Chimni's tomb

The Turkish conquest of India by 12th century and the region of Budaun
Adapted from Ashirvbadilal Srivastava, History of India (1000 1707 AND), Agra

INTRODUCTION

The ancient town of Budaun then referred to as Vodamayuta was founded near the left bank of the river Sot, a tributary of Ganga River. There are ruins of an old fort probably from that period. The early history of the town is obscured although it is believed on the account of epigraphical and numismatical proof that Budaun was under the control of Rathore clan who had common ancestors with the Gahadval rulers of Kannauj, before the Muslim conquest. Bearing a distinct architectural heritage from the 12th to the 18th century, the town and its surroundings have many tombs of historical, associational and architectural importance. They contain the remains of persons of great repute, famed in olden days for their piety or learning, whose presence had merited Budaun the title of 'Piranshahr' or the city of saints. Such are the mausoleums of Hazrat Shah Abdul Qàdir, Sheikh Afrid, Shah Ujala, Saiyid Ahmad Shah, of Sheikh Jalal and of Yahya Khan, representative of different periods of architectural history and worshipped as *rauzas, darhgahs* or *ziyarats*. The Badi Ziyarat and the Choti Ziyarat, the monument of Hazrat Badrau-din Rahmatullah Auliya are till date highly revered.

Today, Budaun is a town with a population of over one and a half lakh, located east of the capital Delhi in the north-central state, Uttar Pradesh of India. The town acts as the headquarters of the district with the same name, bordered by districts of Bareilly, Moradabad, Phulenagar and Rampur in the north; Shahjahanpur in the west; Aligarh, Etah and Farrukhabad in the south and Bulandshahr in the east. The Budaun district and the Budaun city are part of a fertile region of the Indo-Gangetic plains which has been a cradle of Indian culture since antiquity. This curious town conceals a history of over thousand years and anecdotes of some of the most popular and influential historical personalities.

POLITICAL BACKGROUND

The first authentic documented historical event connected with it, is the capture of the territories of Budaun, Chandawar and Kanauj, by the slave king Qutub-ud-din Aibak in 1197-98 AD. At this time of the Ghurid conquest of the country, there was not a unified Turkish state yet and the territory was divided into four important independent principalities namely, Budaun, Lahore, Lakhanauti and Multan and Uch. For the next

five hundred years, Budaun remained an important post in the northern frontiers of the empire and became a highly renowned centre of advanced learning along with places like Awadh and Jaunpur. In the 13th century, two of its governors, Shams-ud-din Iltutmish and his son Ruknud-din Feroz attained the imperial throne. During the reign of Akbar (1556-1605), Budaun enjoyed the status of being a *sarkar* in the *subah* of Delhi.

However, in 1571 the town was burnt and about a century later, in the reign of Shah Jahan, the seat of the governorship was transferred to Bareilly; after which the importance of Budaun declined. It ultimately came into the power of the Rohillas and in 1838 was made the headquarters of a British district in the Rohilkhand division of the former United Provinces. During the 1857 War of Independence, the people of Budaun supported the freedom fighters. A native government was set up, which lasted for eleven months until General Penny's victory at Kakrala led to the restoration of the British authority. In the British period, Budaun which had so far chiefly sustained itself as an agrarian economy on the alluvial plains of Katehr began to function as a trade centre as well. This change was catalysed by the introduction of the narrow gauge from Bareilly to Budaun in 1906. Today Budaun is a place eclipsed by the ravages of times and the disheveled political scene in Uttar Pradesh.

HISTORICAL ASSOCIATIONS

Budaun has been the grounds for the humble beginnings of such famed protagonists as Shams-ud-din Iltutmish, the ambitious governor who would become the monarch of the newly founded Delhi Sultnanate, expand the Turkish kingdom to an almost entire northern Indian subcontinent and rule it for a quarter of a century. Hazrat Khwaja Nizam-ud-din Auliya, the young boy who migrated from here to a village in Delhi, would grow up into a mystic dervish, see eleven monarchs rise and fall in one century of a life-time and become 'Mehboob-i-Elahi', a spiritual magnet for the people of Delhi and for its coming generations, is another such personality. Budaun has also been the final resting grounds for many significant men. While it has the shrine of saint Nizam-ud-din-Auliya's father, it also has the mausoleum of Alauddin Alam Shah Sayyid, the last of the small chain of Sayyid rulers who ruled the Sultanate in the mid 15th century and who would give up the imperial power to retire here to a quiet life.

The town finds itself suffixed to the name of Mulla

Abdul Qadir 'Budauni', a historian of Akbar's time, who would give an alternative view of one of the most important periods of history in his work 'Muntakhib al-Tawarikh'. Interestingly, till the first half of the 20th century, Budaun has continually given pre-eminent writers, scholars, poets and musicians to the country, the likes of which include Ismat Chughtai, Shakeel 'Budauni', Fani 'Budauni', Dilawar Figar, Ustad Ghulam Mustafa Khan and many more.

ARCHITECTURAL HERITAGE

A number of tombs, mosques, *dargahs* (Muslim shrine or tomb of note) and other structures located in the heart of this ancient town and its surroundings are a standing ovation to all the saints, learned men and other popular and influential historical personalities who were once associated with the place. The structures found in Budaun mark contribution from all the Muslim dynasties of the medieval period. Thus, the town prides itself in a chronological architectural trail beginning with structures from the period of Ghurid conquest (early 12th century) and the infant Turkish Empire to those built in the reign of the Slave dynasty (13th century) and those of the periods of Tughlaqs, Sayyids, Lodhis, Surs and the Mughals (14th to 18th century period). The town also has a few structures from the colonial period such as the mission schools, the municipality building, the district courts, the jail and some civil constructions.

The architecture of most of the tombs of Budaun; whether Sayyid, Lodhi, Sur or Mughal, follow the same tradition in form, building construction and applied aesthetics with subtle variations. These are mostly square tombs ornamented with a single band of dark-blue glazed tiles just below the frieze on the top and have rather low single domes. The square rooms have characteristic overlapping pendentives which span the phases of transition. The square form of most of these, results in their being locally addressed as *chauki*.

These tombs are built of finely burnt bricks with next to invisible mortar joints. Use of stone-red sandstone and marble is seen only in the inscription tablets and sometimes in the plinth. However, *kankar* (nodular limestone) which is available in the surroundings is often used for the foundations and the plinth. The interiors show brick decoration achieved through superior techniques of brick projections, rotations, surface cut-work and hair-line bonding. Ribbed squinches, corbelled pendentives, cut-brick geometric patterns, exposed brickwork, recessed
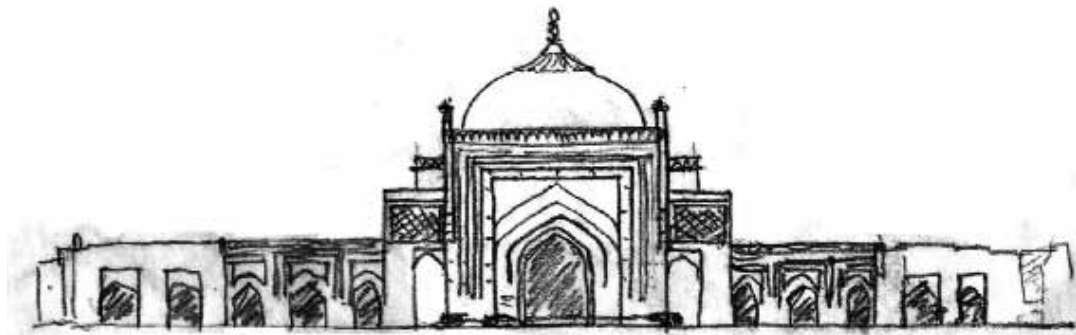
Elevation of Jami Mosque
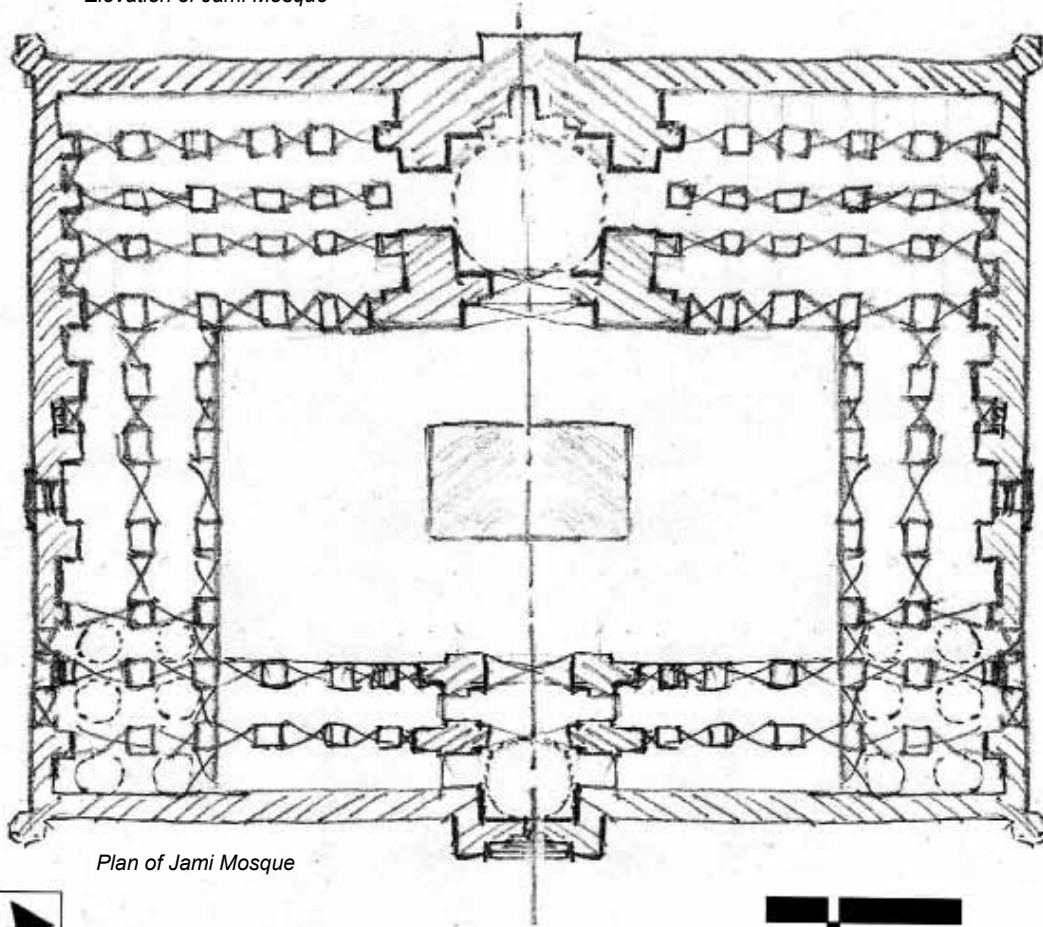
Plan of Jami Mosque

arches and domes ribbed in mouldings from inside characterise not only the building construction but also the aesthetics of these structures. It would not be far fetched to say that the exposed brick architecture of Budaun has some visual semblence to the architecture of Punjab as in Sirhind in India and as also in parts of Pakistan. The decorative motifs on the terracotta applied to the repaired Jami mosque by Muhammad Tughlaq resemble those found in Bela (Baluchistan), Multan, Uchchh, Muzaffargarh and Lal Muhra (Dera Ismail Khan) in Pakistan (Khan 2003). The built heritage of Budaun, dating from various dynasties is chronologically discussed in the following sections.

Slave dynasty

There are three structures credited to Shams-ud-Din Iltutmish in Budaun; the Shamsi Idgah, which is of interest as it is believed to be built in the pre-kingship or governorship days of Iltutmish (Fuhrer 1891), Itmad-al-mulk's Dargah, also called Pisan Hari-ka-Gumbaz (1221 AD) and the Jami Mosque (1223 AD). The Shamsi Idgah is one of the earliest buildings of its kind. It is a masonry structure with a single band of glazed blue tiles just below the battlemented parapet. However, it has been heavily reconstructed in later periods.

View of Ikhlas Khan's Mausoleum

Condition of Jhajhar Khan's tomb

The Jami Mosque was constructed by Iltutmish after he became the sovereign and was built with imposing size and scale. It is estimated to be the biggest in its time, on the pattern of the mosques built by him in Qutb-ud-Din Aibak's Delhi and in Ajmer. The great Mosque possesses four inscriptions providing historic information regarding its construction, repairs and continued importance. The Mosque was repaired and modified by Mohammad bin Tughlaq in 1326 AD. It was probably in this period that it was also crowned with a big brick masonry dome. In the last quarter of the 16th century, it was badly damaged in a fire that engulfed the entire city. Following this, it was reconstructed and an inscription of 1604 AD refers to efforts by Emperor Jalal-ud-din Mohammad Akbar to this effect. One of the architectural feats of the time and a noted historic structure of Budaun, the Mosque merits an architectural description. It is a grand oblong structure measuring about 85 metres from north to south and around 69 metres from east to west. The Mosque was initially built in stone blocks with reassembled components from the materials of an ancient temple adapted to the requirements of the new-flung Islamic ideology with probable use of flat stone slabs and techniques like stone corbelling to span the arches, roofs or the dome. (Seen in all Iltutmish's stuctures from his own tomb to Arhai din ka Jhonpra at Ajmer). However, during later repairs, it was reconstructed in bricks and little of the original building remains. The vast courtyard as most probably originally planned is surrounded by two-aisled deep cloisters on the east, north and south. On the west,
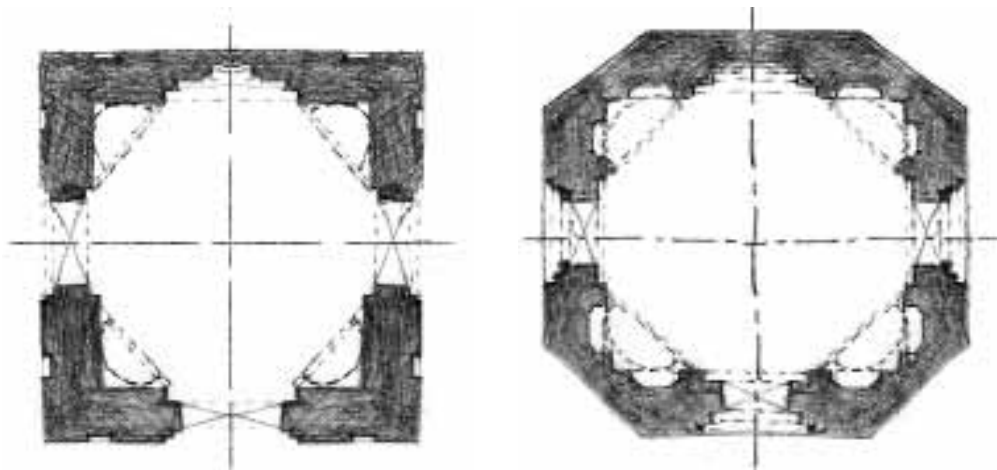
towards the Mecca, is the spacious three aisled prayer hall. The central *liwan* (pillared cloister) is imposing, with recessed arches for openings, embattlements on top, corner turrets for strength and the crown of a massive dome with a base diameter of some 15 metres. The surfaces are treated with terracotta tiles having geometrical, floral and epigraphical decoration. The features and the appearance of the monument bear the distinct lines of Tughlaq architecture with identifiable repairs and changes made from time to time. The centre of the courtyard has a large ablution tank. The three entrance vestibules each capped by a low dome, are elaborately built. Their exterior is still erected in trabeate system, the pillarets and capitals having floral scrolls and select verses from the Quran above the lintels or entablature.

Budaun under Tughlaqs

The Tughlaqs retained the status of Budaun as a foremost principality and continued revering it as a sacred place. As a gesture, Mohammad bin Tughlaq restored the Jami Masjid in 1326 AD and also repaired the Dargah at Miranji a couple of years later. On the eastern outskirts of the town is the Mausoleum of Fateh Khan, who may be the eldest son of Firoz Shah Tughlaq (1351-1388 AD). At the time of the death of Firoz Shah Tughlaq, Fateh Khan was too old and one of his sons succeeded to the throne under the assumed title of Ghiyas-ud-din II. It seems Fateh Khan retired to the serene and calm environment of the provincial city of Budaun while the political scene in Delhi heated up with several contenders. The tomb is a square building, ornamented with blue glazed tiles. The eastern entrance bears a long inscription slab. Azam Shahid's tomb dated 1370 AD is also a Tughlaq structure.

Sayyid and Lodhi period

A notable person buried at Budaun was Daulat Khan Lodhi, the usurper of the Tughlaq sovereign who was set aside by Khizr Khan Sayyid, the founder of the Sayyid dynasty. The tomb of Daulat Khan being a square of nearly 13 metres is one of the largest tombs standing at Budaun now. The entrance bears an undated inscription. The structure was used as a British jail
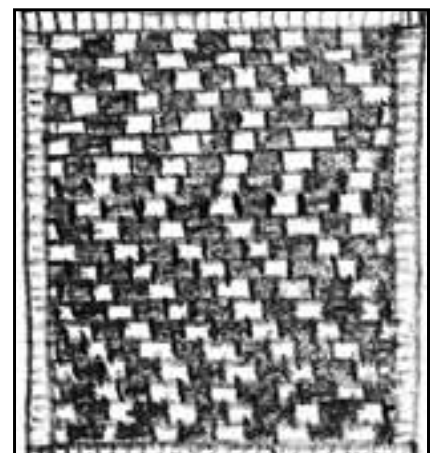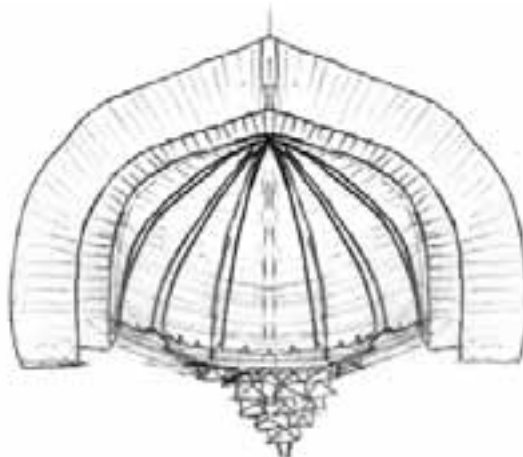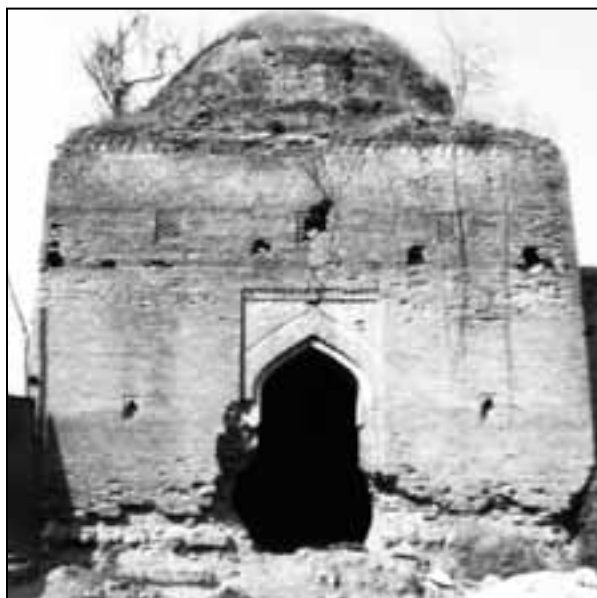
Chowki in Budaun

after the freedom struggle of 1857 (District Gazetteer-Budaun, 1986).

There are a number of mausoleums related to the family of Alauddin Alam Shah, the last Sayyid Sultan of Delhi, who abdicated in favour of Bahlol Lodhi and ended his days in retirement at Budaun. (It seems that Budaun in considerable proximity to the capital Delhi was the choicest destination for the retiring royal family members who probably wanted to spend the remainder of their lives in the company of saints and learned men). His resting place and that of his wife stands to the west of the town. The tomb which was identified by the illustrious British archaeological surveyors Cunningham and Fuhrer as the royal Sayyid Tomb is a square of each side nearly eight metres with a square room inside. The eastern entrance bears two inscriptions in distinct coloured stone slabs. However, the confusion of the actual identity persists. According to the same sources, south of this is believed to be the tomb of one of Alauddin's sons. Tomb of Makhduman Jahan, the mother of Alauddin Alam Shah is also situated in the same town and is a state protected structure. The shrine of Shah Jhanda is a dated Lodhi period structure.

Sur dynasty

There is one dated structure of Islam Shah Sur's reign as well, built in 1550 AD. This is the tomb of Yahya Khan (or Jhajhar Khan), the commander of Budaun in the Sur reign. It is revered as a *rauza* although presently it is in a completely dilapidated situation.

The structure is on the verge of a total collapse and has probably already met its fate.

Mughal period

Many structures bear inscriptions of the Mughal period. As an instance, the Jami Mosque has epigraphical proof of Akbar's contribution in its reconstruction. Akbar also repaired the Dargah of Wilayat Shah in 1573 AD. Mughal ruler Jahangir built Ziyarat-i-Shaikh Jalal in 1609 AD. There are notable structures from the times of Shah Jahan such as the Mausoleum of Ikhlas Khan who was a soldier of distinction in Shah Jahan's time. The Mausoleum located in Mohalla Behrampur, stands eminently about one and a half kilometre east of the city. It is a massive square brick structure plastered with lime, sitting on a high plinth with four fat corner turrets. The Tomb of Chimni, the sister of Ikhlas Khan is an octagonal structure decorated with blue tiles, brick patterns and distinct embattlements commanding a certain architecural merit. The structure is situated to the south of the town. Each external side of this octagonal structure measures nearly eight metres, while the interior space which is a square room has a side of approximately eight and a half metres. The monument is in a relatively better condition. There is also a mosque dating from the times of Muhammad Shah, ruler of Delhi who built here the Masjid of Nizamuddin in 1727-28 AD.

CONCLUSION

Many of the structures in Budaun till date bear original inscriptions which have made possible the identification of many of them in the present, although their state of preservation raises serious concern. A number of the tombs are in highly dilapidated condition, some have collapsed and many would be lost in the coming few years. The monuments not only suffer material and fabric loss, but structural distresses and loss of historical wealth in form of misplaced, missing and fading epigraphical information. The town of Budaun steeped in history and antiquity and replete with architectural heritage lacks recognition of its noteworthy heritage. Its disintegrating monuments and heritage structures need both legal protection and a sensitised, aware community for its effective maintenance, restoration and survival.

Jami Masjid, Dargah of Imadul Mulk, Tomb of Ikhlas Khan and the Tomb of Makhduman Jahan, the mother of Alaudin Alam are a few buildings protected by Directorate of Archaeology, Uttar Pradesh in the

Budaun town. However, the considerable quantum of archaeological sites and built heritage, which are not protected under the Central or State Government's Acts also need attention. Considering the large number of cultural resources extant in Uttar Pradesh and the area over which they are spread, the task of their protection and conservation is enormous and can only be possible with the active involvement of local bodies such as *panchayats*, municipalities and corporations. While the properties of popular *ziyarats* and *dargahs* are still maintained by the Uttar Pradesh Central Sunni Waqf Board responsible for the care of these, several tombs, *sarais* (halting place) and other monuments are just lying derelict.

The lack of local initiatives and the anonymity of Budaun at a regional level have crippled its past heritage and have made Budaun an eerie ghost town. The lack of recognition of the significance of these structures by the local authorities and poor level of awareness among people seem to be the real cause for the extent and irreversibility of the damage already caused. Budaun and many other wee towns of Uttar Pradesh, hardly figure on any of its pilgrim loops, tourist destination maps or any other 'useful' map for that matter. But this ghost town was once on the crossroads of history. It was a thriving spiritual,

The stub of a historic tomb

intellectual and creative centre of all forms of learning and was the renowned abode of saints, *sufis*, scholars, writers, poets, musicians and all kinds of men par excellence. Its crumbling heritage and mass of architectural carcass relate the saga of its bygone glory and call for the immediate attention of historians, conservationists, archaeologists and its own authorities and people.

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Methods and Approaches

Natural heritage and cultural landscapes
Understanding Indic values

AMITA SINHA

ABSTRACT

Cultural landscapes are a significant part of the natural heritage of the Indian subcontinent. The article proposes natural and spatial archetypes as the building blocks of landscapes. Nature is shaped into landscapes through mimesis while self-similarity underlies their evolution. A conservation approach to natural heritage should expand its scope beyond wilderness to include sacred landscapes. The conceptual framework proposed in the article provides an understanding of how such landscapes come to be and ways in which human communities sustain these.

INTRODUCTION

The term landscape in the South Asian context has connotations very different from those in the West. English to Sanskrit dictionaries offer the following translations of the word: *bhu, bhumi, sthala, kshetra and kshetrabhumi.* These terms mean land and demarcated area measured and appropriated for divine and human purposes. Unlike European languages, these meanings imply neither aesthetic pleasure nor view. What distinguishes landscapes of South Asia from those in other parts

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Kalika Mata Temple and Dudhiya Talao on Pavagadh Hill, Gujarat. Source: Department of Landscape Architecture, University of Illinois at Urbana Champaign, USA collection

of the world could be looked into with the premise that expression of built landscape, to a large extent, rests upon a culturally shaped view of nature held by society.[1] The formation of landscapes from the raw material of nature, through the agency of human culture, reflects human values. Indic cultures interpreted and shaped nature into habitable landscapes in distinct and unique ways. The cultural landscapes thus shaped, constitute national heritage that is seldom recognised as such. Most of the state efforts are directed towards protection and conservation of natural heritage which is understood to be pristine wilderness with its rich biodiversity and spectacular scenery. Yet the truth is that human value and attachment are projected mostly into natural landscapes that human societies inhabit. It is these natural and cultural landscapes that need to be studied to understand how a conservation model can be successful with community participation.

TRANSCENDENTAL VIEW OF NATURE

Views of nature may be divided into five basic categories; transcendentalist, evolutionary, utilitarian, ecological and idealist-romantic.[2] The transcendentalist sees nature as divine; the evolutionary view stresses those aspects of nature that have aided human survival; in the utilitarian perspective nature is seen as apart from God and humankind and open to subjugation and exploitation; the ecological view is the emerging scientific paradigm, stressing the interdependence of human and natural systems; and the idealist-romantic view is an aesthetic perspective in which the guiding metaphors are based upon rationality or intuition. These views may coexist in a society or a prevailing one may be supplanted over time by another in the

course of social and cultural change.[3] Hindus view nature as a symbol of divinity and natural surroundings as sites of hierophany [4] where a glimpse of divinity is possible.

They are not unique in venerating nature, many prehistoric societies did the same in their animistic religious systems. When compared to world religions such as Christianity, Islam and Judaism, Hinduism is far more localised or place bound. The land is considered fundamentally sacred, sustaining myths, legends and traditions over millennia. The transcendentalist view of nature reigns supreme in Hindu religious beliefs and is shared by other Indic religions. Although this view is best exemplified in holy landscapes, it can also be discerned in the everyday domestic and public spaces that facilitate a meaningful pattern of daily activities and civic rituals. Sacred landscapes comprising natural elements and their built surrogates act as 'centre'. To the religious mind, they function not metaphorically, but literally as places where cosmos was born and possibility of encountering divinity exists. As such they are pregnant with sacred energy *(numen)* and evoke feelings of *majestas, mysterium tremendum*, and *fascinas* (Otto 1970). The landscape conceived as a 'centre' could be the point of cosmogony, a site of hierophany or simply a spot where other worlds can be accessed.[5] Its meaning derives from the existential experience it affords of communion with higher powers. That experience results in a sense of wholeness and feeling of well being. Often this 'centre' is also considered as an *axis mundi*, holding the cosmos together, where penetration to other worldly realms is possible.

NATURAL ARCHETYPES

Many sacred sites in India can be interpreted in terms of natural elements and their combination; trees, mountains and caves and rivers, which are referred to as archetypes, that hold the potential for becoming *axis mundi* (centre of the known world); evoking meanings encapsulated in symbolism of the centre, a point of rupture where communication with the non human and godly realms is possible[6.] The mysteries of life and death, of fertility and extinction evolved into transcendent meanings for culture; origin of cosmos and its oblivion; conception of passing time and eternity; chaos and order and presence of a higher omniscient, omnipotent spirit. The materiality of vegetation, earth and water provided the sense content to which meanings were attached. The vertical ascendance of trees, their branches reaching to the

skies and their roots going deep into the earth, was a symbol of aspiration and their ever changing foliage, of regeneration. The mountains aspired to the sky and they contained within themselves the means to reach the substratum through caves. Though formless itself, water was nevertheless a reservoir of all possibilities of existence. It could take form from its container, as well act as solvent. It sensuality invited touch while its reflective capacity suggested distance.

Indic religions place an immense value on nature, in their belief that natural elements communicate sacred energies that lead to realisation of divinity within. Found in every sacred site in the Indian subcontinent, natural archetypes are symbols of profound cultural significance that express aspirations of the collective unconscious. While archetypes are universal heritage of mankind, it is their particular expression in Indian thought that is of interest in interpreting cultural landscape. The physical reality of the natural environment in South Asia provided the raw material that Indic cultures fashioned into patterns of landscape symbols. The rivers Ganga, Mount Kailash, Bodhi tree are all examples of visible axes between the earth, heavens, and underworld. They are valourised as such in Indic religions and play a crucial role in cultural narratives of mythology and literature. Their representation in art and literature makes them into cultural icons. Rivers, mountains and trees found in other parts of the subcontinent are named after them. Their presence creates a sacred landscape and encourages a secular one to evolve around it.

SPATIAL ARCHETYPES

Archetypes found in the natural world are transformed into spatial archetypes that are a human creation, inspired by natural forms and their dynamic processes of evolution. Spatial archetypes form the basis of spatial organisation of settlements and buildings. The primordial human being, *purusha*, is an archetypal symbol, in whose image the ancient Indo-Aryans imagined the cosmos to be. In theatres for the performance of dance-dramas, in sculptures of deities and in plans and elevations of temples, this anthropomorphic figure within the basic forms of circle, square, triangle and rectangle, has been the recurring motif. The form can be traced back to geometric plans of Vedic sacrificial structures where the periodic dissolution and self-renewing beginning of cosmos was celebrated. Here *purusha*, symbol of the cosmos, was symbolically immolated in the sacrificial fire (Vatsyayan 1983). Sacred landscapes too

are conceived metaphorically as *purusha* in the *bhu-mandala*. Ritual circumambulations by pilgrims around natural archetypes generate space, both cognitively and physically. Place is created from movement around the centre, orientation to cardinal directions and delimitation of auspicious zone from the ordinary. It is given shape in the spatial archetype *'mandala'*, endowed with great meaning and read metonymically as a symbol of the cosmos.[7] The widespread use to this day of the symbol of the cosmic man, *purusha*, fitted within the square and known as the *vastu purusha mandala*, is intriguing and points to a steadfastly held concept of the genius loci of the site. *Mandala* is a powerful concept in Indic religions and a spatial archetype that governs the layout of pilgrim complexes, cities, villages, temples, forts, palaces and ordinary dwellings.

MIMESIS AND SELF-SIMILARITY

Natural and spatial archetypes function as building blocks of cultural landscapes through the structural process of mimesis[8] and the design principle of self-similarity. The genesis of architectural space and form lies in mimesis. The consistent employment of the design principle of self-similarity has resulted in sustained transmission of natural and spatial archetypes

Bodhi Tree at Shravasti

Temple Complex at Vijayanagar. Source: Hans Hock

across time and space in the Indian subcontinent. The transformation of natural into spatial archetypes; from nature into art and architecture, involves imitation of natural forms and the use of geometry to express the idea of nature and its dynamic processes. The modelling of a building after a natural form such that a sympathetic correspondence is achieved between the two, is seen to occur in ancient India when the tree cult *(vrksha-chaitya)* paves the way to worship of the free standing pillar *(yupa, yashti)*. The reification of the tree into the axial pillar gathers up the meanings into the concept of the *axis mundi*. Similarly, the superstructure of the Hindu temple is modelled after Mount Meru, the mythic world mountain that rises from the centre of the earth into the heavens, the natural and the built share both form and meaning. The settlement of the Indian subcontinent over centuries was accompanied with creation of new landscapes and modification of existing ones. This occurred primarily by 'finding' or creating new sites around which villages, towns, and capital cities were established. The principle of self-similarity is useful in explaining how this occurs. This principle is demonstrated in the naming and remaking of local sites in the likeness of natural archetypes. The religious historian Diana Eck (1998) draws attention to the generation of symbolic landscape through the processes of spatial transposition and duplication. These constitute the grammar of signification in the 'imagined landscape' of India, characterised by polycentricity and pluralism. For example, the divine river Ganga, believed to have descended from the heavens is a natural archetype for other rivers named after her and with similar myths of descent. Not only are natural archetypes such as Ganga and Himalaya duplicated

across regions, sacred sites are transposed, as during festival celebrations, when all *tirthas* are believed to congregate at one spot.

MYTHOLOGY

Landscapes of South Asia thus offer the possibility of transcendent experiences, their cultural meaning going beyond pleasure afforded by aesthetic views. Most sacred sites do offer a striking visual composition of forms, yet are more than aesthetically pleasing settings. Indeed they are considered to be homes of gods where mortal humans can be in divine presence and derive earthly and other worldly benefits. Myths and legends imbue the natural topography with a sacred presence. Hills and water in proximity, river confluences and unusual configurations of hill ranges invariably invite a legend whose spreading popularity causes ascetics and others to settle there and partake of the beneficent energies of the site. The cultural landscape evolves as a result of the cyclical process that oscillates between natural archetypes providing a foundation for cultural narratives and texts (linguistic, visual and enacted), in turn influencing the emerging shape of the land. In epic narratives, it is notable that landscape values guiding

Ashokan Pillar at National Museum, New Delhi

the structure of myth are expressed in manifold ways like in descriptions of settings, protagonist's attitudes and actions and in explanations of the very nature of divinity. This could be explained by taking up the natural archetype of vegetation that figures prominently in the vast corpus of Indic mythology. Animistic tree worship evolved with time into a more complex tree symbolism that played a significant role in the lives of gods and sages. The archaic tree motif symbolising life and fertility paradoxically is evocative of withdrawal and detachment from the world in the Bhagwad Gita. The retreat to forest for meditation is a prevalent theme in Indic cultures and sages over centuries have meditated at the foot of a tree, seeking the secrets of the universe and self-knowledge through introspection.

In Ramayana, Tapovan in Chitrakut and Panchvati where Ram, Sita, and Lakshman stay in the course of their fourteen years' exile forms a striking contrast to the dangers of wilderness. Here, on the banks of the rivers Mandakani and Godavari in *ashrams* located in the midst of tree groves, the dangers of wilderness were kept at bay by the moral force of sages. Nature was benign and sheltering, wild beasts were gentle and trees bore flowers and fruits in profusion. The Buddha spent two thirds of his life in forests on the outskirts of the major cities in northern India giving discourses and formulating *sangha* (congregation) and *dhamma* (creed). The Bodhi Tree *(ficus religiosa)* under which Siddharth Gautam gained enlightenment was a *chaitya* (sacred tree with an altar), representing the transformation of the 'tree of life' into the 'tree of wisdom'. It was not only a symbol of his enlightenment (a time and place-specific event) but also of the doctrine named after him. The symbolic meaning of the tree shifted from its inexhaustible fertility and periodic regeneration to being the centre and support of the moral universe. The sacred groves of Vrindavan on the bank of the river Yamuna where Krishna played the flute as he grazed the cows, casting a bewitching spell over the *gopis*, represent an antithesis to the classical tradition of *tapovan*. However the erotic aspect of nature is sublimated in the religious tradition of *bhakti* that emphasises transcendence through love.

CONCLUSION

The widespread presence of archetypes in pilgrim sites is a reflection of deep, perhaps even unconsciously held beliefs since time immemorial. Archaic symbolism of nature is retained in cosmogonic myths, repeated in rituals, and represented in an elaborate visual language in the cultural landscape. A natural archetype and its

Ganga at Hardwar

built form function as a *tirtha* (centre) of a *kshetra* (region). These landscape symbols valued and revered over centuries by succeeding generations, become part of cultural and genetic memory, offering the possibility of a strong 'charge' when encountered in real life. Landscape meanings, complex and shifting as they are, are built upon this possibility of 'charge' afforded by places. Oral traditions and written texts, local and regional, aid considerably in the construction of personal and collective meanings. Actual landscapes such as Mount Kailash, confluence of rivers at Prayag, Bodhi Tree and its environs at Bodhgaya, sacred groves of Vrindavan, *ghats* of Varanasi, to name a few, draw their power from epic and Puranic myths. Some such as Ayodhya, Dwarka and Kishkindha became capitals of great empires that rose and fell with time. Temple building at these sites continues; the landscapes exhibit variety and dynamism, evolving and transforming in response to rise and fall of empires and shifting allegiances to gods and goddesses.

Krishna and the Gopis in Braj. Source: National Museum, New Delhi

Natural and spatial archetypes are analogous to verbal roots in the landscape vocabulary, to use a linguistic metaphor and are the basis of building blocks of the landscape edifice. Although there are many regional variations in their forms and patterns of use, they resonate with deeply embedded structures in the collective psyche and possess the potential for evoking profound experiences. For a modernising society in transition, they offer an anchor, communicating continuity and stability. A reintroduction of environmental consciousness is possible by making natural archetypes as keystones of conservation planning and design at pilgrim sites. The use of spatial archetypes will be neither revivalism nor traditionalism for its own sake, nor a pastiche of motifs borrowed indiscriminately from the past, but an attempt to achieve a coherent place identity.

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Notes

The article is adapted from the author's book (Sinha 2006).

[1]   Though distilled from many sources, particularly important are writings by Jackson (1994).

[2]   The views are elaborated in Sinha (1995).

[3]   Keller (1993) suggests that the biophilia tendency can be described in terms of nine clusters of learning rules which aid human existence and development: utilitarian, naturalistic, ecologistic-scientific, aesthetic, symbolic, humanistic, moralistic, dominionistic, and negativistic. While Kellert and I share some values (utilitarian, ecologistic-scientific, and aesthetic), the conspicuous absence of any terminology suggesting nature's transcendental dimension makes his scale incomplete in my opinion.

[4]   The term hierophany was used by Mircea Eliade (1959) to mean revelation of the divine. In Indic context *darshan* of a god/goddess would be closest to that experience.

[5]   Cosmogony or the theory of the origin of the universe in pre-historic societies was integrated in the beliefs and practices of the pre-historic societies. In Indic cultures, the origin of the cosmos was celebrated in rituals in sacred sites where it was believed that the universe came into existence (Eliade 1959).

[6]   The great art historian, Ananda Coomaraswamy in his many writings on the theory of Indian art, pronounced it be a 'likeness' by which he meant an 'equality as to the whichness and whatness—or form and force—of the archetype'. He derived this concept from Plato for whom 'equality' and 'likeness' was a real kinship and analogy, qualities that made it possible for an image to 'interpret' or 'deduce' its archetype. In other words, art is an imitation of an archetype which is 'Nature in her manner of operation', of an 'intelligible, not a perceptible model'.

[7]   Jung (1973) used the Sanskrit word '*mandala*' for symbolic representations of wholeness or totality communicated through circle motif and quaternity (such as cross or a square) in medieval alchemy and his and his patients' drawings.

[8]   Mimesis or the imitation of nature in art form was a widely used representational technique in pre-historic cultures to symbolise life and its dynamic processes.

History
A responsible story

SURBHI GUPTA

ABSTRACT

The article identifies with Umberto Eco's 'The Open Work' in the context of historiography. By establishing history as ambiguous and subjective to the historian's perspective, it proposes for a polemic, complex and contradictory plot where in historical writings take the form of open ended stories weaved within the grid of absolute facts. In such a manner, both the author as well as the reader has space for individual interpretations of a bygone past. These concepts have been elaborated, primarily within the realm of architectural history.

INTRODUCTION

The Hindu epic Ramayana, recounts the birth of Lord Rama who crossed the sea to fight the demon king of Lanka. Sometime back, a ship canal project proposed by the national and state governments of India, threatened to dredge a channel right through the middle of what pilgrims believe is Rama's bridge. An altercation of what may be considered juvenile became the latest grub for news and media across the country. It portrayed, on one side, the government, historians and geologists claiming that there is no historical proof for the existence of Rama and therefore, of the bridge being built by him. According to ISRO (Indian Space Research Organisation) Adam's bridge / Rama Sethu (or Rama's 'bridge') was

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Legends, tales and other folk traditions as historical discourse.
Source: (Tales of Punjab, 2007, viewed on April 29, 2009
http://www.amritsar.com/punjabtales/punjabtales.shtml)

not manmade but 'a discontinuous chain of sand bars dotting a 30 kilometres stretch in the east-west direction between the southern tip of Rameshwaram Island in India and Talaimannar is north western Sri Lanka...' On the other hand one saw the religious citizens, backed by opposition parties, voicing their strong belief in theological realism, such as, '...you cannot ask whether Lord Ram existed or if this bridge was built by Lord Ram. These are not questions to be asked just as - if Christ was born to a virgin - cannot be!'

The past is ambiguous and just as unforeseen as the future is. The present too, is driven by multiple perspectives, hence has varying meaning for each. For example, the proposed channel through the sea might seem as a growth pattern to a few but may also seem as destructive of our heritage to another. The above argument which boiled the blood of the nation at one point to time might seem ridiculous and embarrass it in the future. The account of this argument portrayed,

might actually be totally different from what 'truly' happened and the account of the same as perceived by the reader might be another from what was intended. Thus, the 'existence' of an idea or an event becomes only a 'notion' interpreted by an individual at a given time and in a particular context or space. According to Carr (1961, p. 17), 'The contradiction which we feel exists between the world's reality and its incompleteness is identical to the one that exists between the ubiquity of consciousness and its commitment to a field of presence. This ambiguousness does not represent an imperfection in the nature of existence or in that of consciousness; it is its very definition... Consciousness, which is commonly taken as an extremely enlightened region, is, on the contrary, the very region of in-determination'. The Indian philosophy in its concept of '*maya*' also elaborates on a similar idea of ambiguity in reality at a higher level questioning the existence of the entire present and thereby, past, future and the universe!

HISTORICAL DISCOURSE

It is clear that the past, present or future cannot be garbed with an absolute or true reality and definitely not with authority. The question that thereby arises is – what should be the nature of a historical narrative? It is understood that a historical narrative is based on scientific processes and research methods such as archaeology, epigraphy, numismatics and chronology. However, to arrive at a historical fact this research is not exhaustive. History can be answerable to an 'additive' information but not to a 'deductive' information.

History can vouch for the existence of Christ, John F Kennedy, World War I through proven facts but cannot negate the existence of Lord Rama and Ram Sethu based on none found proofs. Secondly, amongst the plethora of found 'additive' information the historian picks only his meaningful 'events' in subjugation of his own nature or school of thought, his wider social and cultural circumstances and his ever expanding present and their related issues. According to Carr (1961, p. 21) 'All history is contemporary history, meaning that history consists essentially in seeing the past through the eyes of the present and in the light of its problems, and that the main work of the historian is not to record, but to evaluate ...' Therefore, even though history can be proven, it is not a fact. It floats between the realm of the actual and the creative, the factual and the fictional. Historians can either exemplify this aspect of history or choose to subject it.

THE CHARACTER

The concept of 'open work' is directly taken from Umberto Eco's (1989, p. 157) works on semiotics where he describes that when things are unclear and our relationship to them is also unclear then it is 'ridiculous to pretend to define them from the uncontaminated podium of rhetoric. It will be another way of escaping reality...' By quoting various examples of what he calls as 'open work' specifically from literature, he elaborates on James Joyce in 'Ulysses' who, according to him, is not concerned with a consistent unfolding of time or a plausible spatial continuum in which to stage his characters' movements making his work an open mode that 'deliberately seeks to offer an image of the ontological and existential situation of the contemporary world' (Eco 1989, p. 10). At another instance Eco also discusses the works of Kafka and mentions, '... there is no confirmation in an encyclopaedia, no matching paradigm in the cosmos, to provide a key to the symbolism... an ordered world based on universally acknowledged laws is being replaced by a world based on ambiguity'(Eco 1989, p. 9). Thus, a plot which gives regard to its 'true' nature, which is polemic not absolute and thereby strives to achieve a sense of ambiguity, contradiction, complexity and multiple meanings in its discourse, then it demonstrates a responsible and liable position in the realm of knowledge. Such a discourse is the only answer to the making of history as a subjective yet responsible account.

The open narrative or discourse is considerate of the reader's point of view as much as its own. But the discourse can either allow the reader to float in an infinite space or in a regulated space defined by the author and since a historical discourse depends on proven facts, the regulated open work obviously is more appropriate. Here, what is made available is a range of pre established and ordained interpretative ideas based on scientifically proven information and these never allow the reader to move outside the strict control of the author. To elaborate with an example, a spiritual guru was once questioned upon the validity of one's actions or *karma* in relation to the contradictory idea of fate or *bhagya*. He answered by comparing a man's life to the situation of a cow tied to a pole. According to him, life is restricted by predetermined, uncontrollable circumstances (pole in this case), however within the 'field of restriction' or boundary where he chooses to reside is completely dependent on him and his actions. This analogy for a predicted future, if mirrored, can also narrate the past,

HISTORICAL NARRATIVE
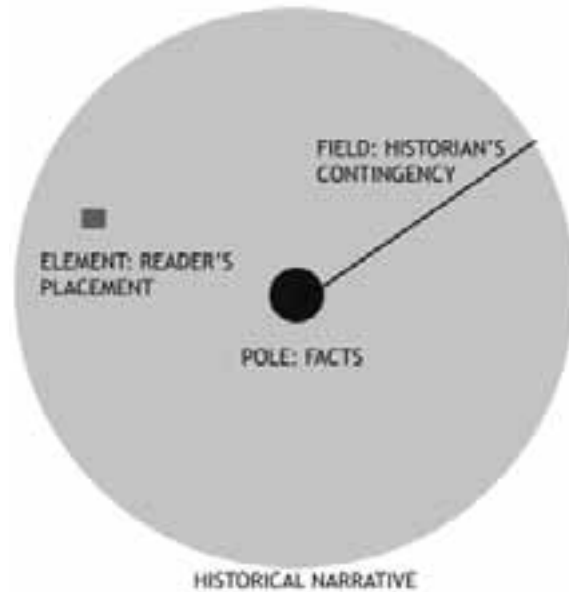
the pole signifying precedent circumstances (based on fact) creates a field as defined by the historian and an individual (a seeker) is allowed to choose his particular stance in this defined existence.

It is understood, that a historical narrative is an ambiguous and contradictory formation and as an architectural narrative is also intentionally or unintentionally diverse in its interpretations and complexities, the historical account of architecture can be no different. Secondly, this account, as is the nature of architecture, can adorn aesthetic, poetic and evocative gestures. Though many believe that architectural history means a record of successive events in time, few know that it also stands for the records of perennial unending chains of thoughts, concepts and emotions encouraging a searching of the soul. Padma Sudhi (1988), disclosing such vision in the Indian tradition writes that '...The Indian point of view gives weight to the task of the reader or spectator who puts himself co-level with the writer or an artist. It is the spectator's own enthusiasm (*utsaha*) that is the cause of tasting aesthetic delight in particular piece of literature or in any performing art forms... Aesthetic experience is, thus, only accessible to a competent (*Pramatr, Rasika, Sahrdaya*)'.

THE STRUCTURE

First and foremost it is a historian's responsibility to conquer the delight of his reader and for that purpose he should not bias his reader towards a singular point

of view. That is, in a false search for clarity and systemisation, the author should not hide the diversity of opinions and exceptions from the reader. Rather, he should celebrate the multiplicity in any event. Most modern authors are given to linear thought, rationality and scientific spirits of inquiry seeking a specific origin in the genesis of creation. Banerjee (2008) is quoted as, 'Creation for them (modernists) must have a unique starting point, a single seed from which it arises, a specific moment which marks its birth, a well defined need or reason which it fulfills.' These and similar ideas of creation and creativity should be abhorrent, giving regard to creation and creativity as multifarious and mysterious.

The real trick lies in stimulating the private world of the reader so that he can draw from inside himself some deeper response that mirrors the subtler resonances underlying in the author's creation. In technique, the concept of oral tradition still practiced in India in the field of classical music, art and theology, propagates individual realisations keeping the 'original' in oblivion. Various scriptures in the Indian philosophy such as the Vedas, Upanishads, Puranas, were transmitted orally for untold number of years and committed to writing for many thousands. In contrast to concrete writings, here, the '*brahman'* (sage) recited the contents to his disciples with a complete indifference to personal recognition, incorporating personal interpretation and diluting dogmatic outlooks.

The indigenous tradition of scholarly writings or treatises called *sastras* dates back from sixth century AD. The treatises were written in Sanskrit or colloquial languages, mostly by learned sages, on subjects such as art, architecture, politics, love making, science and mathematics. The numerous treatises on architecture and sculpture called the *Silpa Sastras* (*Silpa* - manual art, *sastra* - treatise) never laid down exact 'recipes' for the construction of a building. The artist or architect had the liberty to practice unreservedly within a given outline. In such canonical texts language was used to conceal rather than communicate. Similar to the oral tradition, they were open to personal inputs propagating an architecture that was as diverse and tolerant as the personality of its people. Most importantly, because they were not bound by the limitations of capturing 'a' tradition or 'a' history they were reflections of both their past and present ideologies. This disregard for preservation of a fixed model can be seen even in the renovation practices of India where, older buildings were repaired with newer requirements, materials and language, sometimes

completely reconstructed. Whether in case of the oral tradition or scholarly writings or for that matter, legends and mythological stories, the Indian tradition has always believed that narrative can take one to the edge of certainty, beyond which there exists a reality that it cannot reach.

'The need to express something very deep which is beyond words is primal and the Vedas recognise this in a seminal form even while upholding the primacy of the Vedic *sabda* (word). In the Upanishads however the almost magical property of *vak* or the Vedic *sabda* is by-passed and the *rsi* (saint) once again returns to the inability of speech to comprehend the ultimate when he says, *Yato vaco nivartante aprapya manasa sah taittariya i.e.,* from which the words return to the mind, baffled' (Banerjee 2008).

Thus, when a concept is narrated by using conventional linguistic structures - focusing on a singular meaning, one violates the laws of probability that govern the language from within and thus creates a corrigible disorder to its totality. However, by tapping inherent linguistic formulations and other possibilities such as 'emphatic suggestions'[1] and metaphors, one can create deeper and multiple meanings in the text, thus allowing the reader to float unperturbed in a defined space.

To quote an example, in Italo Calvino's 'Invisible cities' the emphatic suggestions posited by language embarks the reader on his own romantic yet, guided journey; and in the context of architecture the discourse becomes suggestive rather than spoon fed. (Here, the author does not want to emphasise that Calvino is a better historian than any other because in fact, his work is not based with accounts of any proven data and therefore it is closer to literature.)

> Whether Armilla is like this because it is unfurnished or because it has been demolished, whether the cause is some enchantment or only a whim, I do not know. The fact remains that there are no walls, no ceilings, no floors...Against the sky a lavabo's white stands out ...you would think the plumbers had finished their job and gone away ...(Calvino 1974, p. 49).

> But the special quality of this city for man who arrives there on a September evening, when the lamps are lighted... is that he feels envy towards those who now believe they have once before lived an evening identical to this and who think they were happy, that time. (Calvino 1974, p. 7)

Mythology as historical discourse: Relief of the descent of Ganga in Mahabalipuram, India
Source: (Descent of Ganga, 2008, viewed on April 29, 2009, http://upload.wikimedia.org/wikipedia/commons/3/3f/Ganga_Mahabalipuram.jpg)

Most of the classical languages of the world, including Sanskrit, have many words which are used in two or three meanings or even more than that even 'empirical, ideal and transcendental' (Sudhi 1988). Similarly, mythological stories and iconography are outcomes of the aesthetic theory of metaphors preserving various concepts of the past and present in their materialisation itself. These lingual or visual manifestations acting as a 'symbol', an '*avatara* or an incarnation' (Banerjee 2008) of that concept, have a wider and deeper aspect that is not precisely defined but which has a direct living relationship with what they signify. The symbol is one of the many manifestations of the many meanings and nuances inherent in the concept that it symbolises. This inquiry is undertaken by the aesthete whose mission it is to understand and realise the beautiful.

> The symbol at its primary or *saksat* level is to be seen and apprehended visually, its visual form understood and all its sensual, non-formal attributes such as colour and texture, shape and form, taken in. This is the first order of business for the aesthete. However,

to the trained and prepared aesthete the symbol points insistently to another meaning and therefore becomes an extended metaphor or *dhvani* which has to be understood and realised through contemplation and not just ratiocination. The mind has to explore the symbol and is then led to ideas that lie beyond the *saksat* or the immediate grasp of reason. A symbol however is not just a simple metaphor or *laksana*, for in a simple metaphor the primary meaning is discarded because of *mukharthabadha* or breakdown of the primary meaning, and the secondary meaning is then enjoyed. Rather, a symbol is an extended metaphor or *dhvani* and as the mind explores the symbol the primary or surface meaning is not discarded but enjoyed but which on contemplation leads to multiple meanings which are held together like lotus leaves on a needle; in the words of Abhinavagupta...This process of contemplation is not passive but there is an active and creative element in this aesthetic exploration of the symbol. (Banerjee 2008)

THE RESPONSIBILITIES

The advantage of the open work is to establish man's inventive role to solve a mystery or quicken his imagination. This process answers many social issues at the wider level. As Eco (1989, p. 83) very correctly says, 'The crisis of contemporary bourgeois civilisation is partly due to the fact that the average man has been unable to elude the systems of assumptions that are imposed on him from the outside, and to the fact that he has not formed himself through a direct exploration of reality. Well-known social illness such as conformism, gregariousness, and mass thinking result from a passive acquisition of those standards of understanding and judgment that are often identified with the "right form" in ethics as well as politics, in nutrition as well as fashion, in matters of taste as well as in pedagogical questions.'

Secondly, an open narrative gives every seeker a unique and unrelated vision within the proposed existence (whether in acceptance or in contrast) making him automatically dissociated from fellow seekers. These seekers, instead of searching against each other for the absolute 'truth' or creating 'symmetrical picturesque ness', rise in their own beliefs of multiple possibilities, new horizons and infinity. Thus, a sense of harmony is achieved when the differences are celebrated not when they are eliminated. Difference is accordance in totality. An 'open work' not only gets confronted by infinity of interpreting personalities from different backgrounds and beliefs but the same person also views it with infinite meanings depending on his intrinsic

developments and disposition or the fluctuations of his outside world. This makes the discourse a 'constant' in the passage of time and space, achieving a value of timelessness. Thus, such a narration of history achieves its valued responsibility at every seeker's, historian's and society's domain of existence.

Padma Sudhi (1988) aptly said, '...An ageless wisdom revealed and re-revealed, restored and again restored through the cycle of ages. The latter becomes old; the former is old, and therewith, eternally young did not put biographical data of an individual under the head of history, but it gave an account of philosophical value and its symbolical significance ...'

To conclude, architectural and conservation practices today reflect the extreme historical mindedness of the present generation. A fast changing or 'developing' society throws itself into the depths of nostalgic backwaters in turn desperately anchoring on picture perfect objects of association. Thus, ideologies, principles and knowledge sink but the apparent surface gets immortalised into handy elements called 'traditional'.

However, if history takes the initiative of becoming more than a narrative or sequence of events, situations and practices but a discourse on values and beliefs; not authoritative but, giving to individual resonances, then it begins to take an active position within a society and its multifaceted, changing personality. History becomes a threshold where every individual's present manifests itself for fantasising the past and therefore, the future.

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Notes

[1] While elaborating on linguistic messages and their various functions, Eco differentiates between the 'REFERENTIAL FUNCTION (pointing at something well defined and, if necessary, verifiable)' with the 'EMOTIVE FUNCTION (aiming at provoking certain reactions in the recipient, stimulating associations, and promoting response behaviours that go well beyond the mere recognition of a referent)' According to him a simple message, such as, 'That man comes from Basra' can be both, referential or emotive, passive or active, informative or stimulating in response based on the tone of speech, recipients associations with Basra, other conditions and situations *etc.* However, an 'EMPHATIC SUGGESTION' is meant to produce a plethora of individual emotions and connotations which are 'intentional, provoked, and explicitly reiterated, but always within the fixed limits of the author, or, better, by the aesthetic machine that he has set in motion' (Eco 1989), p. 29-36.

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Swaguna Datta is working as a library and archive professional. She has authored a biographical dictionary of famous persons after whom different roads of Kolkata are named. Her current work is on road names of Kolkata and its suburbs.

Visual Documentation as a Tool for Conservation
Part I, North Chowringhee Road, Kolkata

HIMADRI GUHA, BISWAJIT THAKUR, SWAGUNA DATTA

ABSTRACT

Chowringhee is an important thoroughfare of Kolkata and a showpiece of the British Raj. Unfortunately, many of its heritage buildings have been neglected for economic and cultural reasons after the Independence. In this study, the present cityscape of the area is compared with available past images and photographs. It reveals that almost all buildings of the first generation have been lost including major public buildings like the old General Post Office and that the heritage loss is still continuing in the area. It has been found that only one building on Lindsay Street crossing has survived since the beginning, for a period of more than two hundred years. Currently, the heritage status of this building is not clearly indicated in the list prepared by Kolkata Municipal Corporation. The study helps in rediscovering the 'Jhinjheera Talao', a heritage lore of the city and identifies it as an important site to be conserved for the future.

INTRODUCTION

Kolkata was firmly established when Robert Clive, a British soldier appointed by the East India Company, recaptured the old Fort William

Conjectural map of Kolkata, 1690. Source: Calcutta Society, modified by Samaren Roy

situated in Dalhousie Square (now called BBD bag) from the Nawab of Bengal Siraj-ud-Daula on January 1, 1757. At the time, Chowringhee was a village and 'Pilgrims Road' joined it with the surrounding areas. It was the only north-south corridor in Kolkata connecting the holy temple of Kalighat to Sutanuti in the northern part of the town. Clive started the new Fort William at Govindapur to the south of the old fort. It was completed in 1781. Kolkata Maidan, an open ground was created around the Fort for security and many Indians were relocated from Govindapur to Sutanuti. Kolkata was developing fast. Dalhousie Square became crowded and a 'white town' in Chowringhee Road was established along the Maidan in 1770s (The Imperial Gazetteer of India 1907-1909). Chowringhee became synonymous with Kolkata through out the British Empire. Improvements like bollards, road macadam, street lighting and walkways were all done for the first time in Kolkata on Chowringhee road. Chowringhee is one of the most important thoroughfares of Kolkata; a product of the British and a showpiece of the empire, the heritage buildings of which have been under a state of neglect for economic and cultural reasons post Independence.

The study area divided into seven sections covers the northern part of Chowringhee now known as Jawaharlal Nehru Road. A number of people have studied the Chowringhee over time. Works of Daniell (1787), William Woods (1833), Sir Charles D'Oyly (1835), Fieberg (1851) and Bourne (1870) have retained early information. Books by Busteed (1881), Blenchdyne (1905) and Massey (1918) contained photographs of the second generation buildings. More cityscapes of Chowringhee became available with the popularity of photography. During the World War II, foreign soldiers took photographs of the area and

recorded the façades. Bengali books like Basu (1996) provided important information. Old news papers dating from 1857 have been searched to collect relevant information. These images by painters, lithographers, photographers and writers recorded for the last two hundred years have been studied chronologically for an understanding of the development of Chowringhee cityscapes.

STREET SCAPE STUDY

The study attempts to compare the present status of the cityscapes in the northern section of Chowringhee Road with the past through an analysis of archival and recent images of the same. The study not only records the historic past but may assist in restoration of heritage façades of Chowringhee in future. The analysis is presented for each of the sections separately as follows:

Key plan of the study

Changes of CESC Building Site

Dunkeens Bustee, 1865. Source: The illustrated London News

Photograph of CESC Building and Tipu Sultan Mosque, 1944. Source: Claude Waddell, US Army Photographer, University of Pennsylvania, Van Pelt Library

CESC Building, 2008

Tipu Sultan Mosque

1851. Source: Fieberg, British Library

1865. Source: French Illustrated Weekly

Mosque with Cook & Kelvi Store at Distance, 1890. Source: Antique print on sale

1910. Source: Antique picture postcard on sale

2008

CESC Building and Tipu Sultan Mosque

The northern end of Chowringhee is defined by the Calcutta Electric Supply Corporation (CESC) head office building. The area was earlier called Dunkeens Bustee. The CESC office was built on the plot in 1933. The CESC Building is functional today and in a good state of maintenance. The analysis suggests that the bifurcation of the roads in front of CESC house have remained intact through its existence. The Tipu Sultan Mosque next to the CESC Building was built by his son Prince Gulam Mohammad in 1840, in commemoration of his obtaining the arrear stipend from the East India Company (Murray 1933). While the view of the Mosque has been blocked by surrounding pavement stalls, the architectural façade elements have not undergone any changes, as evident from visual records since 1851. Apart from these two buildings, this section also portrays another heritage showpiece. The first gas street light in Kolkata appeared on July 6, 1857 in Chowringhee. The light poles affixed in front of the Mosque have been pictorially traced through visual records from 1890 and 1910. CESC adopted similar poles as logo in 1933 when CESC House opened and few such poles are still maintained. A few rare discarded gas lamp holders can be still seen as urban fossils.

One to Three Chowringhee Road

The oldest available image of the area was a lithograph by Woods (1833). The area was historically identified as the Dharamtalla crossing and the building in front as 'Oil Bazaar'. The Oil Bazaar could not be traced from reports or news papers during the study process, though it is known to have been dismantled to be replaced by the Bristol Hotel by 1910. One Chowringhee was under construction in 1870 and by 1885, it was transformed to a hotel. The name changed few times like Hotel D'Europe, Hotel de Paris, Palace Hotel and Bristol Hotel (Massey 1918). By 1944, it was a popular Chinese restaurant known as Chung Sun. Currently, the premise is known as Chowringhee Hotel and is still used as an eatery. Bristol Hotel later moved to premise number two, Chowringhee and was a popular hotel by 1910. By 1944, it was an office premises and is still in use. The verandah was covered during the Second World War but is now open. However, the façade including domes are covered with bill boards today. Three Chowringhee Road was recorded in 1833, 1835 and 1870. By 1910, a new building with sloping roof was made on the site that was changed to a flat roof by 1944.

First street light in Kolkata

1885. Source: British Library, Johnson & Hoffman

1890. Source: Enlarged antique print on sale

1895. Source: Enlarged antique postcard on sale

1910. Source: Enlarged antique print on sale

Since 1933

2008

One, Two Chowringhee Road

Woods Lithograph, 1833. Source: British Library

D'Oyly Lithograph, 1835. Source: British Library

One, Two Chowringhee, 1885. Source: Johnston & Hoffman, British Library

One, Two Chowringhee, 1895. Source: Antique postcard on sale

One Chowringhee, 1900. Source: Massey Montague book

Two Chowringhee, 1910. Source: Antique print on sale

One, Two Chowringhee, 1944. Source: Glenn Henley US Army Photographer

One Chowringhee-Chung Sun Restaurant, 1944. Source: Claude Waddell, US Army Photographer

One, Two Chowringhee, 1944.
Source: Claude Waddell, US
Army Photographer


One Chowringhee, 2008

Two Chowringhee, 2008

The development of the pond named Dharamtalla in front of the Oil Bazaar is noted to have happened between 1833 and 1835, as though absent in Wood's lithograph, it features in the lithograph by D'Oyly. This is corroborated by the fact that historians confirm that some ponds were dug at that time from lottery fund (Basu 1996). The pond was later filled up for the tram terminus. Also, the first footpaths, twenty feet wide and about seven inches high, were executed in 1856 according to Basu (1996). The footpath can be verified in an 1885 photograph by Johnston in which sizes of the footpaths have remained the same and shops have appeared in the area. Horse drawn tram tracks started service in 1870, are seen in visual records from 1885 and 1895, while the introduction of an electric trolley car which started service in 1902 is present in the 1910 image of the Tipu Sultan Mosque. Many European shops came up in the area by 1895, an example being the Cook and Kelvi Store, seen in an image of the Mosque with the Store in the background from the same year.

Metro Cinema and Metropolitan Building

The oldest available image of the area was made by Woods, skyline of the same area was made by D'Oyly and the first photograph was available in 1885. Present Metro theatre is absent in a photo dated 1910. The two storeyed building marked in the right corner of was demolished for Metro Theatre in 1935. Metro was designed by Thomas W Lamb, who at the time was the most famous cinema architect in the world. Projects like the Madison Square Garden in New York were designed by him. Lamb designed a number of Metro cinemas around the world, many of which are copies of each other. For example, Kolkata Metro is almost identical to the hall in Perth, Australia. Premises number seven is popular as Metropolitan Building and housed Whiteway and Laidlow; a Kolkata based multinational departmental chain having more than twenty malls in south east Asia. The building lay in a dilapidated condition till year 2000, when the World

Three to Seven Chowringhee Road
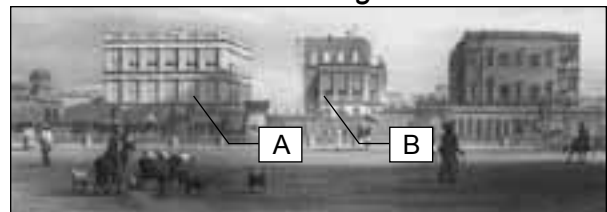
Three to Seven Chowringhee, Lithograph by Woods, 1833.
Source: British Library
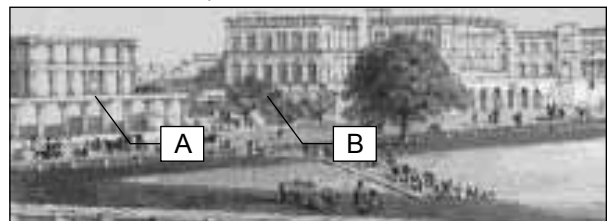
Three to Seven Chowringhee, Lithograph by D'Oyly, 1835.
Source: British Library
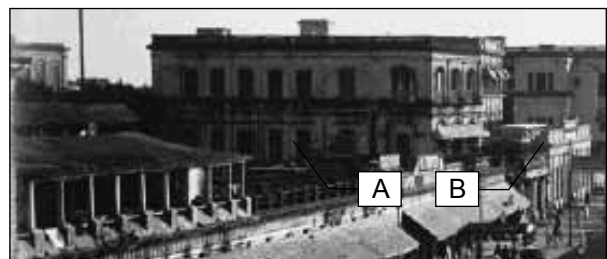
Photograph by Johnston and Hoffmann, 1885.
Source: British Library

Metro Cinema

Perth, now demolished. Source: cinematreasures.org

Kolkata, 1940. Source: Calcuttaweb.com; Courtesy: Elwood Baldwin and Somdev Roy

The Metropolitan Building

Whiteway and Laidlow, 1944. Source: Claude Waddell, US Army Photographer

2002

Under restoration, 2006

Now, 2009

The Metropolitan Entrance Grill, 2008

Features of the Metropolitan Building

Separate service corridor

Stained glass work

Atrium drawing. Source: Kolkata Municipal Corporation

Intricate motifs on external façade
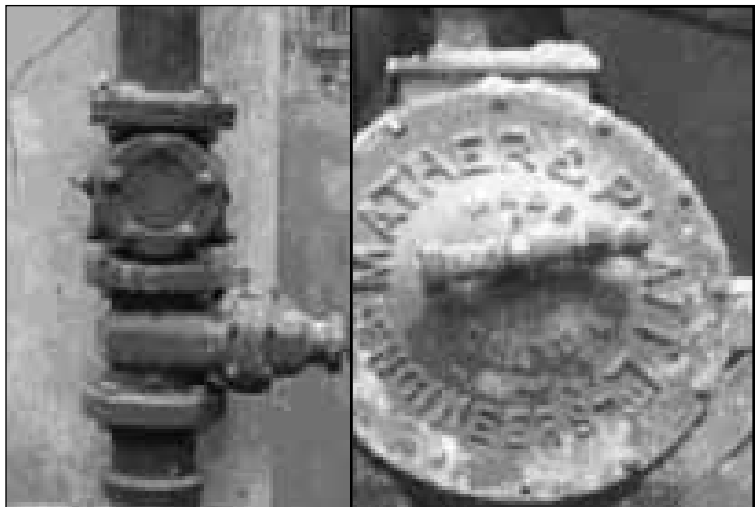
Fire fighting appurtenances

The Chowringhee Mansion
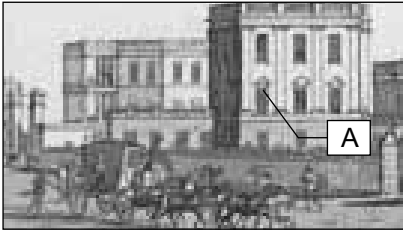
Chowringhee Mansion Site, Daniell Painting, 1787. Source: Victoria Memorial Hall

Woods Lithograph, 1833. Source: British Library

North view of Chowringhee Mansion, 1918. Source: Massey Montague book

North view of Chowringhee Mansion, 2007

Now, 2009
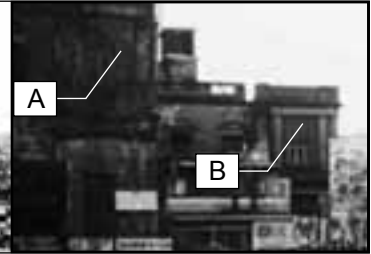
Inside of Chowringhee Mansion, 2008
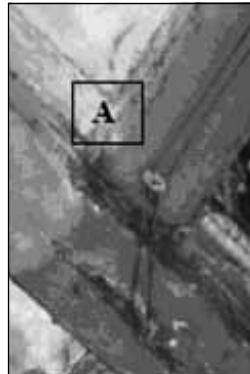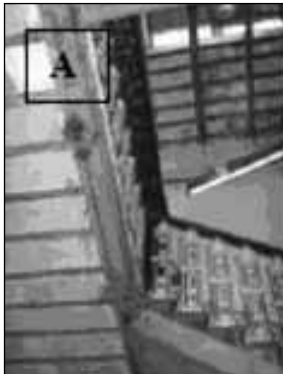
Outside of Chowringhee Mansion

A & B: Two south side second floor balconies compared

1944. Source: Glenn Hensley

Damaged façade and columns, 2007

Monument Watch, a US organisation identified it as one of the most endangered heritage building in the world for the year. It is now restored. The building is 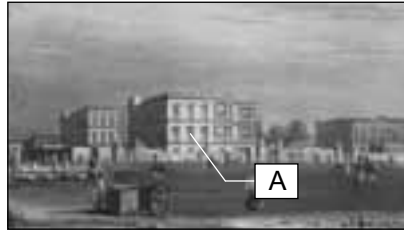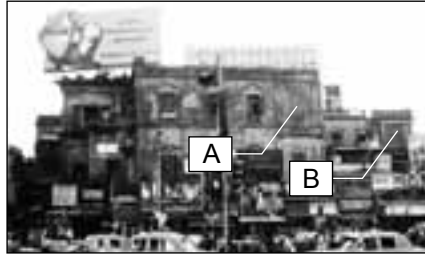called Metropolitan because it was later owned by Metropolitan Insurance. At some point of time, the building was called Satchidananda Chambers as evidenced from a grill in an entrance. However, the history of this name could not be found. In addition to a grandiose façade it has several interesting features to classify it as a world class building. In it's hey day, London's Covent Garden or Alexandria Palace were the only structures comparable to it. In the upper level residential areas, it has multilevel service corridors to separate the service providers from the boarders, a concept used only in hotels with star rating. Metropolitan had an extensive stock of stained glass works. A stained glass atrium was the focal point. A double wall glass canopy was constructed to make the atrium waterproof as shown in the original drawings. The entire external façade was covered with intricate motifs. Metropolitan had state of the art utility services, uncommon in 1910 when the building was constructed, such as installation of extensive fire lines.

Chowringhee Mansion and Peerless Inn Site

Chowringhee Mansion and Continental hotel (now Peerless Inn) were recorded by Lady Amherst in 1825; the area was also lithographed by Woods in 1833 and D'Oyly in 1835. Photographs of the same were taken by two unknown photographers in 1860 and 1870 and a north side view of the Chowringhee Mansion (Massey 1918) is also available that shows the portion of the covered balcony over the pavement, that is in a dilapidated condition today. An etching by Daniell from 1787 is the earliest visual representation of the

Continental Hotel (Now Peerless Inn)

Continental Hotel site, 1850. Source: Massey Montague book

Continental Hotel, 1905. Source: Antique photograph on sale

Continental Hotel 1915. Source: Massey Montague book

Continental Hotel, 1944. Source: Glenn Henley US Army Photographer

Peerless Inn, 2002

Traces of Continental Hotel, 2009

Chowringhee Mansion. Hence, the Chowringhee Mansion that has been represented visually from the 18th century is one of the earliest existing structures on site that lies in a poor state of conservation. South of Chowringhee Mansion is the present site of Peerless Inn. The hotel was known as 'Ritz Continental' in the seventies and 'Continental' before it and is recorded through a visual representation from 1850. Massey, a Calcutta socialite recollected, in his memoir in 1919, 'There is only one landmark left to distinguish it by, and that is the house on the left, No. 10, forming part of the Continental Hotel (Figure 17a). At one time this was occupied by Colonel Searle who, I remember, had two pretty daughters whom I used frequently to meet out at dances….' The continental site is fully rebuilt and no previous traces are left except probably the building Massey referred to. The remains of the verandah over the walkway can be seen presently.

Grand Hotel, Firpo's and Leslie House

A panorama of the area in about 1847 is prepared based on the lithographs of Fieberg (1847) and labelled with the identified structures; the Tipu Sultan Mosque, the Metropolitan Building, the Peerless Inn (of today), the Grand Hotel, Firpo's and the Indian Museum, along with two tanks across the road, one facing the stretch of one to three Chowringhee (now Tram Terminus) while the other, Manohar Das Tarag, facing Lindsay Street (now Nelli Sen Gupta Sarani) and the Museum. While it is not documented, the perspective seems to show that the Ochterlony monument balcony was used as the view point. Incidentally, the monument is probably the only structure that has not changed in Chowringhee since it was built in 1828 in memory of Sir David Ochterlony, a British General for victory in the Anglo Nepalese War of 1814. A lithograph of the monument was prepared by Brooks in 1870. A photo of the area from Ochterlony monument by Bourne and Shepard from 1868 has been compared with a recent image from Google map in which the tank Manohar Das Tarag provides bearing for comparison. Through the analysis from the 1847 lithograph and the 1868 photograph, the changes in Grand Hotel site before 1900 have been observed. Also, a visual study specific to the Grand Hotel has been carried out, starting with a lithograph of the tank Manohar Das Tarag by D'Oyly that presents one of the first views of the Grand Hotel. The site was first won in a lottery by a Colonel Grand who built a country house in Chowringhee. Annie Monk, an Irish lady acquired the property in 1870 for use as boarding house. Massey (1918) wrote,

I recollect there were two other houses, one a small, two storey affair standing where the Grand Cafè now is.… The other

Changes in Cityscape, one to four Chowringhee
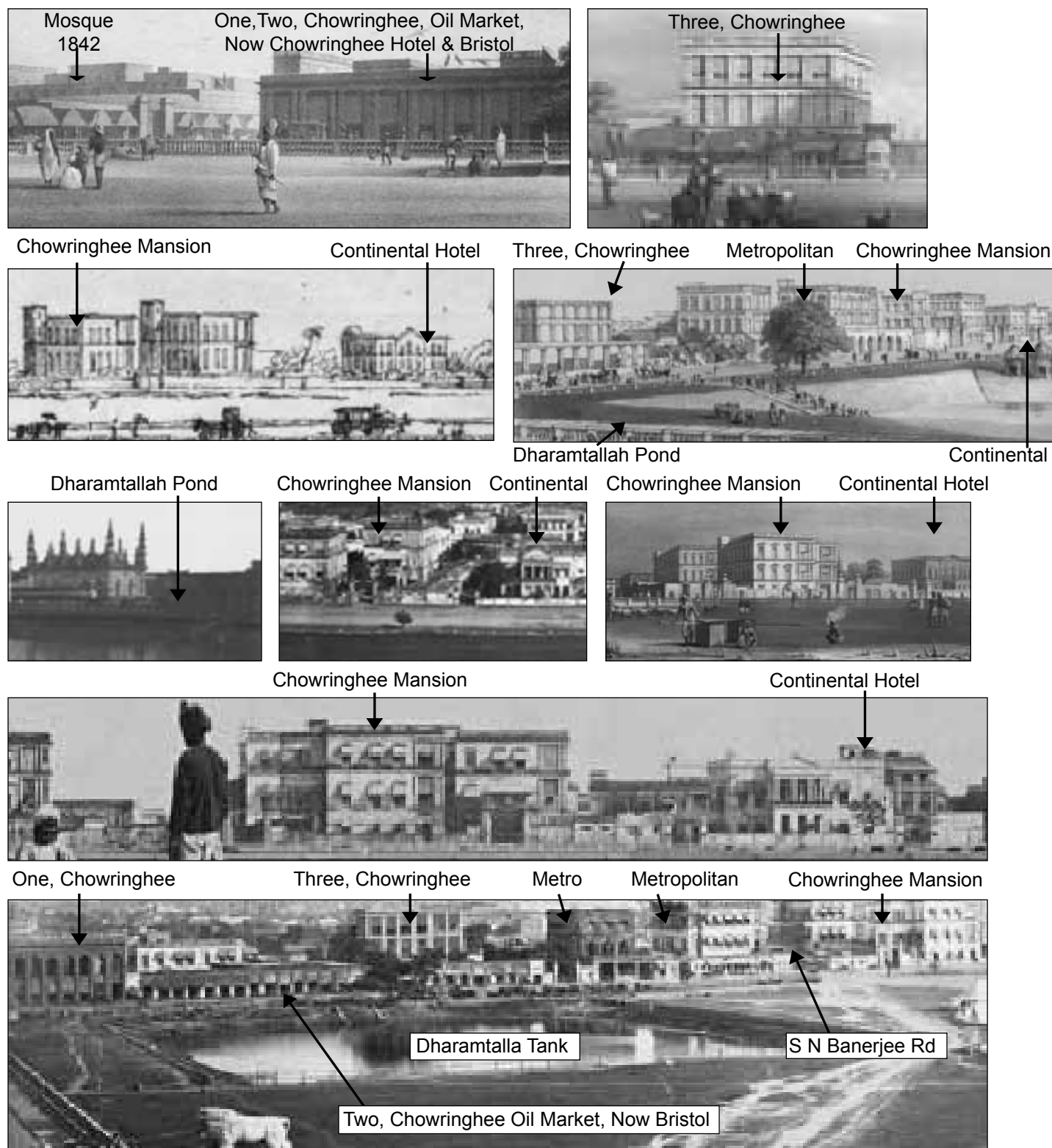
(from top left to right) Part enlargement from lithograph by Woods, 1833. Source: British Library; Part enlargement from lithograph by Woods, 1833. Source: British Library; 1825 Source: enlargement of sketch by Lady Amherst, British Library; Part enlargement from lithograph by D'Oyly, 1835. Source: British Library; 1851. Source: Fieberg, British library; 1860. Source: Oscar Mallitte, British Library; Part enlargement from lithograph by Woods, 1833. Source: British Library; 1860. Source: Enlargement of photo by Unknown photographer, British Library; 1870. Source: Vibart collection, British Library

Panorama of Chowringhee
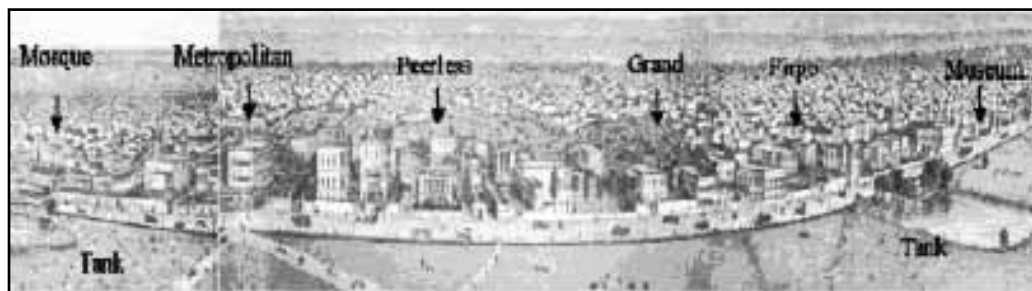
Composite lithographs based on Fieberg, 1847 (Source: Composite made by author from British Library lithographs)
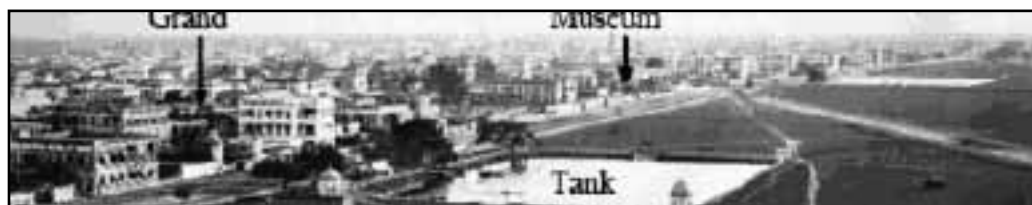
From Ochterlony Monument, Bourne & Shepard, 1868 Source: British Library

Google Map, 2009

house was much bigger, being three storey high, and stood on the spot where the Empire Theatre… (These) three boarding houses in Chowringhee kept by Mrs. Monk prior to the formation of the Grand Hotel and in which they became subsequently incorporated. The nucleus of this very imposing structure consisted of five houses facing Chowringhee, inclusive of the three just referred to and two to the south, Nos. 16 and 17, which are clearly shown in the photograph.

In 1894, an Armenian merchant Arrathoon Stephen, acquired the boarding house and formed Grand Hotel. It was not considered as one of the good hotels at that time. Wilhelm, Prince of Sweden in 1915 found it 'somewhat shabby'. The building complex was rebuilt in the present form after a fire in 1911. Electricity was introduced in 1914 and a storey was added in 1918. By 1920 it became a premiere hotel in the east; in 1938 the property was being managed by Oberoi. It
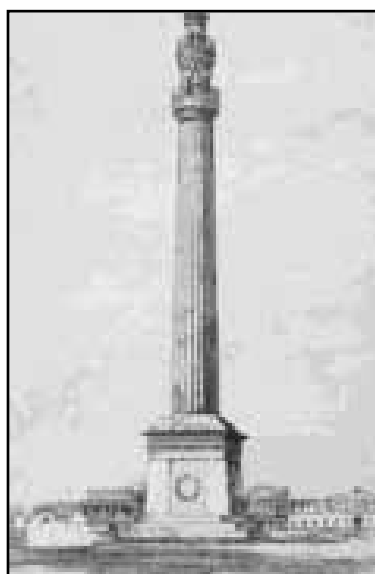
Octherlony Monument, lithograph by Brooks, 1870. Source: British Library

The Grand Hotel

*D'Oyly lithograph, 1848.
Source: British Library*
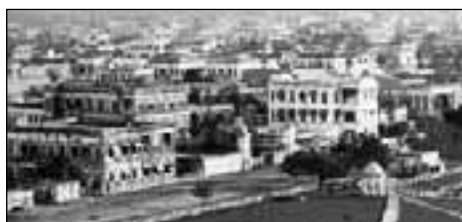
*Part enlargement from photograph by Bourne
and Shepard, 1870. Source: British Library*

*1900 (estimated)
Source Massey Montague book*

1915 (estimated)

1918 (estimated) Source: Massey Montague book
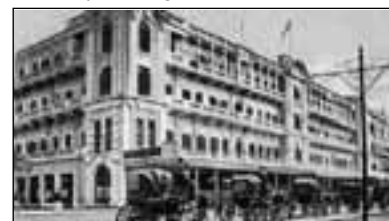
*1918 (estimated). Source: Antique Print
for sale*

*1928 (estimated). Source
Hulton-Deutsch Collection*

1930 (estimated)

1944 (estimated). Source Leveritt personal collection

1950 (estimated)

Now, 2007

was requisitioned by army during the World War II, after which the hotel turned to be one of the best in the region.

North of the Grand Hotel is a cul-de-sac approach to New Market, the lane had bookstalls and cinema halls like Lighthouse and New Empire. Further, to the north of the dead end is Firpo's, a legendary culinary heritage that has been lost. Angelo Firpo was a renowned Italian chef who set up the restaurant. It was probably the best continental restaurant in India with reputation across the world. For example, *The Gentleman's Companion* (1939), published from New York, outlined a grand cocktail tour to 'the unpredictable Balloon Cocktail from Calcutta's smartest restaurant, Firpo's'. The change of Firpo's site has been traced from 1930 to present through the visual study. It was destroyed in a fire after which a garment market was established at the

site. The south of Firpo's is the Leslie house, which was rebuilt. The current image of the Leslie House shows typical colonial elements; the style of inscription of the name of the building on the façade too has been drawn from the earlier building (earlier Leslie & Co., now Leslie House, barely discernable), though the structure is in a dilapidating condition and needs attention today.

Lindsay Street to Sudder Street

This section details the areas around Lindsay Street to Sudder Street. When Europeans settled in Chowringhee about five tanks were dug for water in Chowringhee area. The tank at the junction of Chowringhee and Lindsay Street was first recorded by Daniell (1787) and D'Oyly (1848). The Corporation of Calcutta raised a plaque in 1948 at the site that still exists. It records that one Manohar Das gifted about 16 hectares of land

The Firpo's Site

Restaurant, 1930 (estimated)

Restaurant, 1935 (estimated). Source: Antique photograph on sale

Restaurant, 1944. Source: Claude Waddell, US Army Photographer

Restaurant, 1955. Source: The Statesman

Burning of Firpo's. Source: BBC, South East Asia news

Garment Market, 2009

to the city in the year 1800 when new Fort Williams was built and named the tank in his memory. The evolution of a building now at premises number 19B, Chowringhee at the north side of the Lindsay Street (now Nelli Sengupta Sarani) has been charted. In 1833, Woods depicted the addition of a western balcony block facing the Chowringhee which was in vogue at the time. This western balcony block could be traced in 1870 and 2007 in blocked condition. The second floor southern balcony was remodeled from 1787 to an open terrace and has been informally covered in 2007. The first floor southern balcony has remained the same from 1787 to 1833; it was observed to be blocked up in 2007.

A detailed examination of the parapet balustrades, balcony column locations and height-width ratios of the windows shows beyond doubt that the present building is the same building drawn by Daniell in 1787. This particular building now marked 19B; Chowringhee is probably therefore the oldest building that survived

Leslie House

1918. Source: Massey Montague book

Now, 2009

in Chowringhee. As per the Municipal Register, the heritage status of this building has not been clearly stated. This building has the distinction of being recorded in one of the first painting of a city (1787) and being depicted in a cityscape study by Woods in 1833. Few residential buildings in the world have such distinctions. It is one of the oldest English country houses surviving in Kolkata and should have a clear heritage classification.

The site immediately south of Lindsay Street was also depicted by Woods (1833). The building with long columns and grand portico was the original General Post Office (GPO). Hastings allowed the public to use company postal service since 1774. The postal Act of 1837 in England allowed the Post master General '….the exclusive privilege of conveying from one place to another all letters….'. GPO was set up in Chowringhee in 1830s, was probably shifted near the small cause court for a while before its final relocation in 1870 beside the tank in Dalhousie Square. Firminger (1906), in a 250 pages guidebook about Calcutta wrote 'We pass the larger red brick building occupied by the Young Men's Christian Association and come to Lindsay Street'. In this book that has a building by building description of Kolkata, the old GPO building was ignored. In addition the building does not appear in the list of heritage buildings of that time. The fate of original GPO building is traced through the visual evidence. By 1870, the original portico was changed;

19B, Chowringhee Road

Painting by Daniell, 1787. Source: Victoria Memorial Hall
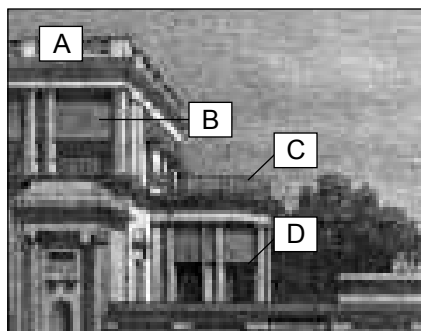
Part enlargement of lithograph by Woods, 1833. Source: British Library
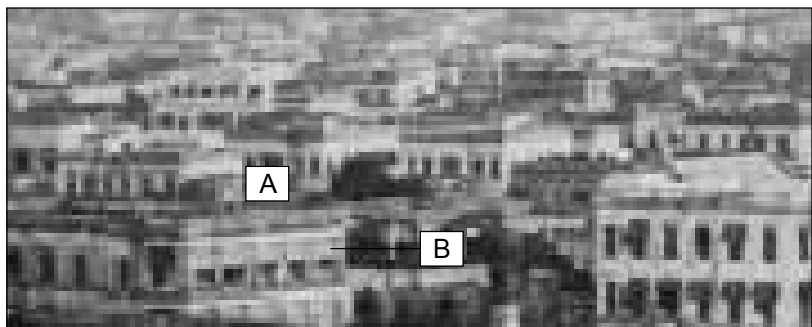
Monument Panorama, part enlargement from photograph by Bourne and Shepard, 1870. Source: British Library

Present view of building marked A, 2009

A: Existing building
B: West balcony added by 1833
C: Second floor, south balcony/terrace
D: First floor, south balcony

The old GPO
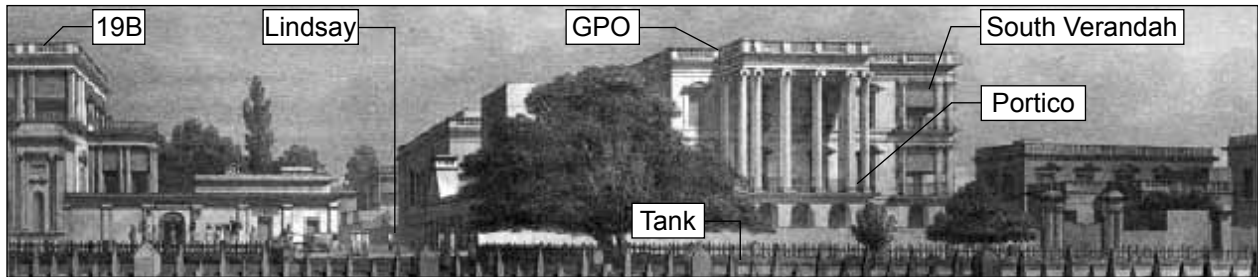
Three storied GPO, Woods Lithograph, 1833. Source: British Library
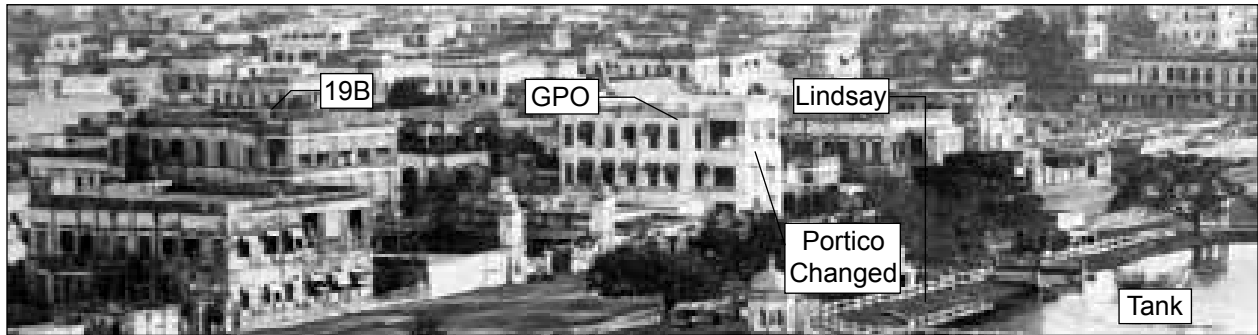
Front portico removed, 1870. Source: Bourne, British Library
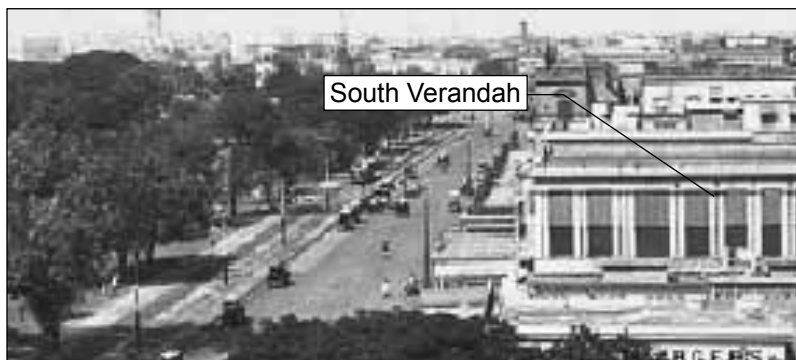
South façade from YMCA Terrace, 1903. Source: Keystone View Co
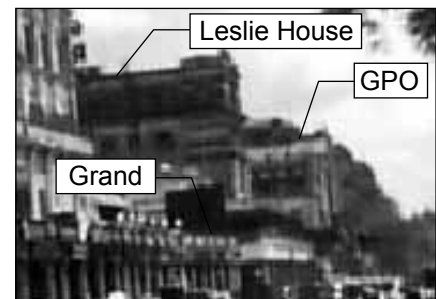
North façade, 1944. Source: Leveritt personal collection

however, the south verandah was intact till 1903. Presently, the verandah has been dismantled. The north façade survived at least up to World War II. The site is now completely covered with bill boards. The 1833 façade is completely lost. Generally, major public buildings are saved from destruction unless the site is recycled with a new construction. In this case, the portico and verandah were dismantled and the building is left to shambles. The same area of Chowringhee and Lindsay crossing was photographed towards the Ochterlony monument by Bourne in 1865. The open areas of present day sites of Grand and Firpo's recorded in 1787 had been built up by 1865.

Thereafter, there are three plots of lands namely Bible Society, YMCA and Samuel Fitz departmental store (presently Zarang Restaurant) between Lindsay and

Site of Old GPO

The YMCA Building

1925 (estimated)

2007

The Haunted House
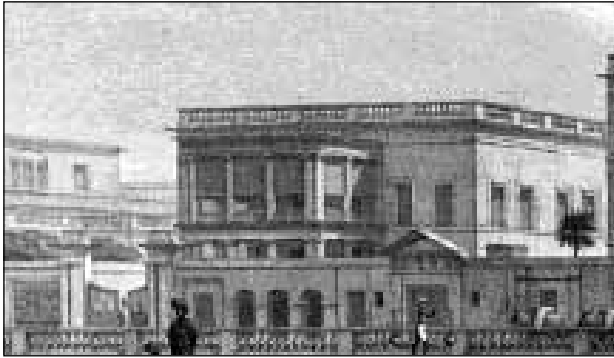
Lithograph by Woods, 1833. Source: British Library

1918. Source: Massey Montague book

Towards the Ochterlony Monument

Samuel Bourne, 1865. Source: British Library

Sudder Street. These buildings have not changed much since 1920s when these were built. The cast iron columns of the portico in YMCA have been embedded in concrete. Massey (1918) had an interesting story for the present day Zarang restaurant site, 'The house adjoining, at the corner of Sudder Street, has always had the reputation of being haunted, and no one would go near the place for years, and it was gradually falling into decay, when one day to the surprise of everybody some natives appeared on the scene and occupied it'. The same building was also recorded by Woods (1833).

Areas around the Indian Museum

The Indian Museum site was labelled in Fieberg's lithographs (1847) and Bourne's photographs (1865). The area was first recorded by Woods (1833). The present day name 'Sudder Street' originated from 'Sadar Dewany Adalat (Court)' that dealt with 'native' cases where the law was administered according to Hindu or Muslim legal codes. The court complex can be seen in Woods' Lithographs (1833) and Fieburg's image from 1851. The street was called 'Speke Street'

Sudder Dewany Adalat Site

Kyd Street, from lithograph by Woods, 1833.
Source: British Library

Speke Street, from lithograph by Woods, 1833.
Source: British Library

Sadar Adalat, Fieberg, 1851. Source: British Library

because one Peter Speke, member of the council who built a house there in 1790. Speke rented his property to the company for the court. There was a tank within the premises since 1742 and was called Kyd Street Tank, marked in a map from 1800 and depicted in a lithograph by D'Oyly. Public had right of access to the tank but Speke desired to keep it private. Blechynden (1905) wrote, 'The ghaut opened on this road and over the steps an arch was thrown, and was built up with a

perforated wall, which, while it allowed the water to flow freely through, effectually shut out people who came to draw water from entering the tank, which was surrounded by high wall. It was this perforated wall which obtained for the tank its native name of Jhinjherrie Talao (the mesh - work tank) or sieve tank'. In 1797, an altercation broke out in Speke's house for access to the tank and a Sikh was killed. It was a major scandal at the time. In 1940, Wilmot wrote, 'Jhinjherrie

Kyd Street tankor Jhinhjeera Talao

Tanks in Chowringhee, 1800. Source: Notes by author on Wood's Map

A: Dharamtalla
B: Manohar Das
C: Kyd Street
D: General Tank

'Sieve Tank', from lithograph by D'Oyly, 1848. Source: British Library

Suspected Remains of the Ghat, 2009

Calcutta Museum

Asiatic Society, Woods Lithograph, 1833. Source: British Library

Asiatic Society Premises for Museum, 1850. Source: Calcutta Museum website

Calcutta Museum at Present Site, 1909. Source: Imperial Gazette 1909

Calcutta Museum at Present Site, 1930. Source: Antique post card for sale

Talao (or mesh-work tank) so called from perforated arch beneath the arch fronting the ghat steps still extant in a somewhat altered condition.' The remains of the Ghat are perhaps still lying in the site, as identifiable in a current image. The street was renamed as Sudder Street.

The Calcutta Museum was founded by a Danish botanist, Nathaniel Wallich in 1814. It was initially housed in Asiatic Society. Granvil who designed buildings like GPO and High Court, also designed the Museum building. The present site before and after construction has been compared. The Museum

Sudder Street entrance
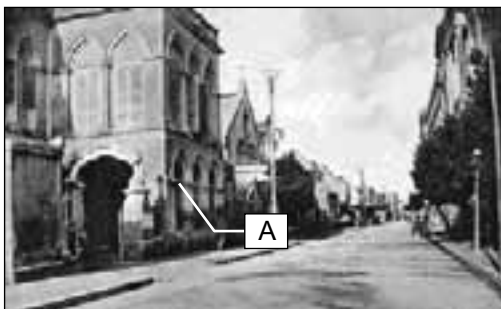
1905. Source: calcuttaweb.com

Now, 2009

Salvation Army Hostel

Hostel, 2008

Only some remains, 2009

Geological Survey of India Site

United Club, Bourne, 1890. Source: British Library
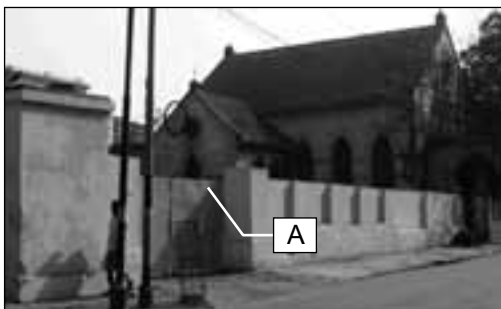
GSI, 2009

A: A heritage building seen in 1905 image, brought down in 2009.

shifted to the present site in 1878. The top floor was later added as evidenced from a photo from Imperial Gazette in 1909 when the top floor was still incomplete. The Wesleyan Church at entrance of Sudder Street, documented in 1905 has been compared with a present image. A building next to the Church seen in the 1905 image, a heritage structure, at least hundred years old has been brought down this year. Similarly, Salvation Army guest house which is behind the Museum complex in Sudder Street has only a few remains now.

Bengal United Service Club was founded in 1845. Although originally founded for Indian Civil Service (ICS) and Military Officers, it later became necessary to include other services such as the Indian Police, the Forest Service, the Bengal Pilot Service and others. The original two storeyed building as documented by Bourne in 1890 was later rebuilt. The Geological Survey of India now has their office in the building.

FINDINGS AND CONCERNS

It has been found that street layouts and plot sizes have not undergone much change during the period. Images have been collated premises wise to record changes over time. In the process important findings have been discovered and are summarised as follows:

- Chowringhee is historically well documented and this documentation base can be effectively used for urban conservation of the area.
- Shuji (2001) finds that Europeans initially built garden houses that were mostly lost. The present study further corroborates that most buildings of the first generation have been lost including major public buildings like the General Post Office.
- The study shows that only one building (19B, Chowringhee) has survived since the beginning. The building is not clearly classified as a heritage building by the Kolkata Municipal Corporation and should be included in the heritage register.
- Heritage buildings continue to be destroyed in Chowringhee area.
- Many heritage building façades are covered with bill boards.
- The study has rediscovered the details of 'Jhinjheera Talao' the traditional knowledge about the heritage of the city and identified the spot which might be restored in future.

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Dholavira
Ancient water harnessing system

SWASTIK HARISH

ABSTRACT

The Harappan civilisation has been known for its town planning and architecture. The site near Dholavira on Khadir Beyt exemplifies their pattern towards water harnessing techniques. Excavations at the ancient city have revealed fortified water conservation systems, often with advanced levels of architectural work. More than four and a half millennia old, the city demonstrates a focus on water needs in the arid region. The author argues for the case of adapting and applying this frugal water economy for the region's rural areas, and to encourage this as a model development in the face of limited and ephemeral water resources.

INTRODUCTION

The ancient city near Dholavira, Rann of Kachchha established around 3000 BC, is a unique Harappan town with an elaborate and extensive rain water harnessing system; perhaps the finest example of Mature Harappan town planning and architecture in India. Large excavation sites of Harappan culture are concentrated in the vicinity of the Indus and the old Ghaggar River systems. The consolidation of the Harappan civilisation is estimated to have taken place around 3500 BC, when largely rural settlements along river systems in the north western parts of

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*The expected regional planning of the Harappan civilisation;
Author's rendering of the regional plan (Lal 1997) combined
with new proposals regarding the importance of the Ghaggar
river system*

the Indian subcontinent experienced an acceleration of domestic trade. The trade based on locally available mineral and forest resources further grew towards other cultures west, along the coast of the Arabian Sea. They developed highly advanced systems such as a pattern of town planning, a script, possibly originally for records, standardised weights and measures, and even trademark seals.

Attendant to the trade system were a multitude of cities, spread as far as Jammu, the Narmada basin, the Doab region and the western seaboard of Pakistan. It has been surmised that the cities were the dominant trade centres of their regions, thus forming a system of interacting city-states (Lal 1997). The governance of Harappan cities is expected to be a form of proto-democracy, wherein power was shared between the dominant trade guilds through representation and the priesthood (Ratnasagar 1991). In most Harappan towns excavated, the citadel was usually the preserve of the priests. The guilds were possibly the classes which came to power based on control over materials and/or manufacturing (Lal 1997). The cities were planned in usually a rectilinear way, and often localised.

The script of the Harappans has not yet been deciphered and while both Sanskritic and proto-Dravidian[1] associations are proposed for the Harappan language, there is a possibility of it being distinct and independent. Sumerian records of the time identify regions from which there was import of objects and materials, some of which would be readily available to the Harappans. 'Meluhha' thought to be Kathiawar and the Gulf of Kachchha, 'Dilmun' associated with the further western seaboard of India and 'Makan' referring to inland Sind and Baluchistan in these records, are attributed to derivations of names as used by the Harappans (Thapar 2001).

URBAN STRUCTURE

Dholavira experienced a stable and mature phase lasting over 500 years. The city comprised of a citadel and bailey, middle and lower towns and an efficient and beautiful rain water harnessing system. The architecture of the city was of a scale comparable to Harappa and Mohenjo-Daro and had elements like ceremonial gates and grounds, numerous residence and workshop buildings, as well as skilfully developed water structures, all within fortification walls. The chronological sequence of the habitation of the site has been categorised into seven distinct phases based on archaeological evidence. In the stable and mature phase of the Dholavira, its population is projected at about 40,000 within an area of over 47 hectares. This phase saw a high degree of maintenance of the city infrastructure. Archaeologists expect that there was a developed sense of civic responsibility in the populace during the phase, due to the lack of evidence of any encroachment on the city plan (Bisht 1991).

INTEGRATED WATER DESIGN

Dholavira is unique from any other Harappan town and possibly from any other town of the era, due to the elaborate and extensive rain water harnessing system built into its fabric. Till recently, it was only the scale of the system which had amazed many archaeologists. With the discovery and excavation of more tanks in close proximity to the citadel, a superb level of craftsmanship and masonry has also been revealed. These tanks are possibly the finest and best preserved examples of building development found till date in the context of the Harappan civilisation. At the time of the Harappan civilisation, conditions in the Rann of Kachchha are expected to be different from today. Recent theories are predicting that the then large Ghaggar River emptied its waters in the northern part

of the Rann (Thapar 2000). Even then, agriculture would not have been very easy due to the primarily rocky sub-soil of Khadir Beyt. Inundation of the Rann would have been perennial, and the area would still have been an 'island'. The northern fringe of Khadir Beyt had a range of low lying sandstone hills. From here, during rains, many ephemeral canals and channels emanated. The city of Dholavira was built between two such streams in a way to fully capture the water that would flow in them after every rain. The natural slope of the earth was generally from the north east down to the south west. Thus, check dams of timber braced masonry were constructed towards the highest available elevation of the streams, which provided the location for creating channels to the uppermost reservoirs. By creating hard channels as upstream as possible, the amount of rain water lost to seepage in the land was also reduced. Subsequently, more such dams along the course of the streams could effectively trap any further amounts of water. The entire water from the streams which would have been discharged in to the Rann was drained within the city walls through this manipulation (Bisht 1995).

The water from the Mansar, the northern stream, was led first through a channel to the reservoirs along the northern perimeter of the city. These reservoirs were stepped down in three parts along the created slope within the city walls (Bisht 1995). Between these divisions were barriers with open able channels and causeways for maintenance. This system allowed the storage of water in one or more of the reservoirs depending on the quantity of water harnessed. This also meant that loss of water due to evaporation could be kept to a minimum. If there was a substantial quantity of water in the streams, in that case the general basin to the west could also be filled. A check dam where the Mansar left the environs of the city ensured that almost no water was allowed to proceed further downstream.

The harnessing of the Manhar, the southern stream, can probably be dated to the time of the original establishment of the citadel. Near the south eastern corner of the city, a series of dams allowed water to be channelised towards the reservoirs on the southern and south eastern periphery of the city. Recent excavations in the region have revealed a series of reservoirs which on preliminary calculations have increased the estimate of stored water in Dholavira many fold. Of these tanks, the most impressive is the one immediately towards the east of the citadel. Measuring almost 75 metres north-south and 30 metres east-west, it had a triple stepped basin, over 10 metres deep at its maximum.

STAGES OF URBANISM OF THE SETTLEMENT

3000 BC	I	Establishment of the Citadel structures
	II	Further elevation of citadel walls, growth of Middle Town
2700 BC	III A	Establishment of Bailey and Ceremonial Ground, fortification wall around middle town, creation of reservoirs bound by fortification.
2500 BC	~Catastrophe	
	III B	Creation of Lower Town with bounding fortification
2000 BC	IV	Stable phase
	V	Decline of maintenance in citadel complex.
	~Abandonment of site for few decades	
1500 BC	VI	Resettlement of smaller area, different manner of production.
	~Abandonment	
	VII	Late settlements, break down of city plan.

Three sides of the tank had steps leading down. The land between the tank and the fortification of the citadel is thought to have been a promenade with a pathway connecting the eastern exits of the citadel to the broad embankment around the tank. It was accessible to the entire population of the city and was possibly used for ceremonial or religious functions. It has been surmised that the tank was damaged irreparably after the end of the mature phase of the city and was probably never used thereafter (Bisht et al. 2005).

To the south of the citadel, there is a series of five discernible tanks which have now been largely excavated. These are thought to have actually been two larger tanks with a levee in between. The unit to the immediate south of the citadel was of masonry while the more elaborate unit further to the west was of highly skilled rock cut work (Bisht et al. 2002). This was connected to the south gate of the citadel wall and also had a large terrace to the west where it met with the general western basin. The basic rectangular dimension of this rock cut tank was 33 metres east-west and almost 10 metres north-south. The eastern part of this tank, near the levee was found to be almost eight metres deep while the rest of the tank was found to
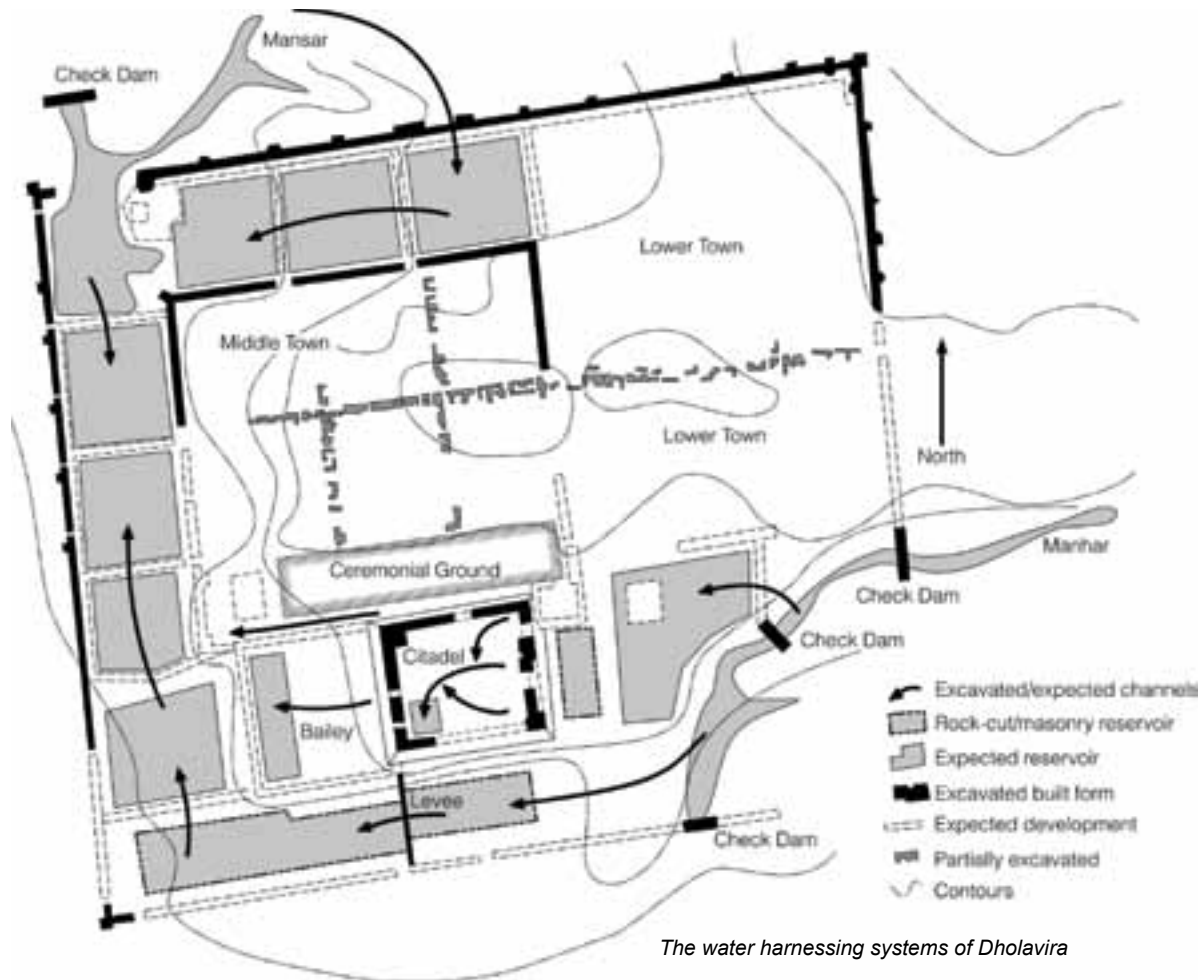
The water harnessing systems of Dholavira

have a depth of around six metres. These series of tanks were interconnected with either masonry or rock cut drains depending on the location. Presumably, these drains formed an overflow system such that each tank could be filled up after the preceding one is full. It is also conjectured that these tanks also became defunct at the end of the stable phase of the city, along with the ceremonial tank to the east.

In the citadel, flat surfaces including the top of the fortification walls were utilised for their rain water runoff. It is estimated that the wide fortification wall directed runoff towards channels built within the wall itself. These channels are of unexpectedly large sizes, enough for a person to walk inside them. They were lined with stone masonry and presumably had some treatment to make them impervious. The channels from the fortification wall were connected to a large covered channel which separated the citadel into the northern and southern parts. There was also a small stepped cascade on the east wall which fed the channel in the centre. This channel sloped from east to west and fed two stone walled reservoirs set within the ground level

of the citadel (Bisht et al. 2004). The reservoir had an attendant well which could be on an original water source. This is not fully known yet as the well has only been excavated to a depth of 14 metres and is expected to be deeper.

CITY PLAN AND ARCHITECTURE

The citadel was the focus of the city and was well within the outer city fortifications. It measures 150 metres east-west and 120 metres north-south. So far, most architectural elements of Dholavira have been found in the citadel. Its outer fortifications were 15-18 metres thick at the bottom and 12 metres thick at the top. From the outside, the walls rose up to a height of 18 metres. The buildings within the citadel were set on the northern and southern flanks and are expected to be the chambers of the residents of the citadel (Bisht 1995). It is interesting to note that according to current projections, the built area there might have been enough for only a few people. This can mean that the system of government in Dholavira could have been aristocratic as compared to the form of proto-

democracy normally associated with the Harappan civilisation (Ratnasagar 1991).

The impressive northern gate of the citadel was set within the thickness of the fortification and consisted of two large flights of stairs arranged to turn at a landing. At the lower level, there were two flanking chambers with roofs supported on round stone columns with articulated bases and capitals. These well finished stone columns are unique to Dholavira in Harappan architecture. Archaeologists feel that this lobby space led out onto a wooden balcony above a terrace which ramped down to the ceremonial ground another six metres below. Further, a feature designated the 'banner', famous for its nine large inlaid Harappan script, is projected to have been hung from the lintel of this gateway.

The gateway from the citadel to the east was of a less ceremonial nature. It also had steps and a single attendant chamber set within the thickness of the wall. Similar stone pillars have been revealed there as well. The area to the west of the citadel has been tentatively designated the bailey and probably served as the residential complex for the administrative officials and ministers of the city (Bisht 1995). It was lower than the citadel by six to seven metres, and the built form excavated within it has been found abutting the citadel wall. Its entire western perimeter was a water reservoir; which was expected to have been recharged, from surface run off from the roofs of buildings as well as from the west fortification of the citadel. The location of the citadel is thought to be the original location of the first settlement. Initially, middle town came up as an organic settlement in the northern proximity of the citadel and some parts of the middle town proper. Then there was a directed effort to define the main streets of middle town further to the north along with a relocation of the settlement to create the ceremonial ground (Bisht 1995). Consequently, the outer boundaries of the middle town were fortified and a check dam system to harness the ephemeral stream of Mansar was created. Since the centre of the middle town was the naturally high ground, drains were made along the streets which transported surface run off from the open surfaces to these reservoirs.

Lower town has not been excavated to any large extent but is expected to show the same features as the middle town. It was established after a catastrophic earthquake and subsequent repairs. Perhaps the people who helped carry out these repairs were given place in the lower town and integrated into the city fabric. Excavations have shown that the main street from middle town was not maintained as a straight line and there was deviation from the regular geometry of the old city. The lower town had generous access to water bodies located to their south (near the Manhar) and the north. Besides, another reservoir is expected to be present in the north east corner of the city, between the lower town and the outer city fortifications. Interestingly, archaeological evidence proves that an earlier tradition of the city to plaster buildings with bright white and pink clays, sometimes in many layers, was abruptly stopped after the catastrophe. Thereafter, all buildings were maintained as exposed masonry or with mud plaster.

The typical Dholaviran house was of a courtyard typology, with several surrounding chambers. While most of these chambers were probably bedrooms and bathing chambers, some were manufacturing units for the city. Wherever possible, the entrance to the house was taken from a side street than the main street. Even then, fenestrations to the street were not very common and most doors and windows faced the inner courtyard. At the entrance to some houses, a semi open space with a platform was set within the house boundaries, perhaps as a meeting place for guests or visitors who were not expected to go into the interior of the house. Sewage and waste disposal was taken care of within housing units by the use of well maintained soak pits, often in the form of large clay jars.

CONCLUSION

The site of Dholavira demonstrates advanced principles of water management for its time. The simple but effective methods employed by the citizens to capture the ephemeral streams speak of an inherent regard for meagre resources. The care with which some of the tanks have been made demonstrates the importance of the enterprise to the city. By successively damming the streams, efforts and risks were contained and localised. Maintenance effort would also have been

Banner with inlaid Harappan script
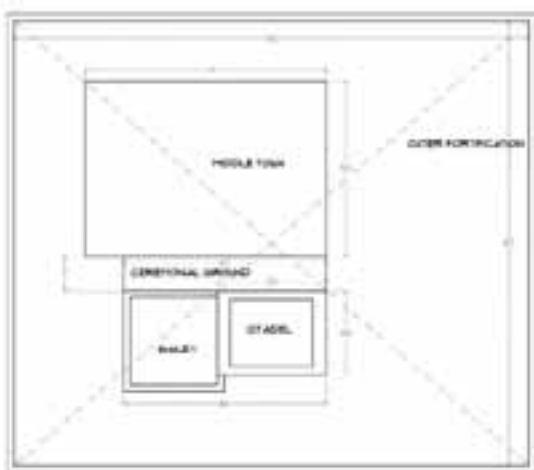
A brief analysis of the ratios hypothesised in the plan of Dholavira[2]

kept to a minimum while probably ensuring a supply of water at even the worst of times. By making available the captured resource to its entire population, the city also showed its adherence to equitable resource management.

On analysing the system in detail, one can say that the system could have benefited from a storage system which was covered to protect the water from evaporation. Similarly, an advanced material treatment

for the walls of the tanks would have considerably reduced seepage as well. And finally, a modern water filtration system would have enhanced and sustained the quality of stored water. All these are available today for use, as are more precise methods of construction. Putting these together with the ancient principles, a system of water harnessing and storage can be made such that it virtually eliminates errors and losses. In this and other arid regions, this can be developed into a model for sustainable water resource management.

The fortuitous location of the ancient city has put the name of village Dholavira on the world heritage map. In light of a proposal to declare the ancient city a World Heritage Site, the Archaeological Survey of India with the collaboration of the State Government, has developed a master plan for the region. Prominent architects, planners, archaeologists and conservation experts are part of the team identified to generate this master plan. The author argues the case for incorporating a system of water management as described above within it. By thinking ahead of their time, the Harappans of Dholavira have projected their ideas regarding sustainability into our present. There is a strong need to initiate a new dialogue between the village and its ancient neighbour, using an evolved language of water conservation.

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Notes

[1]   Romila Thapar (2001) attempts to correlate the words Meluhha, Dilmun and Makan with a proto-Dravidian language family, rather than a Sanskritic family in the same essay.

[2]   According to some historians, the basic unit of 1.77 metres as gleaned from this and other plans of Harappa towns, reflects the Vedic unit of Angula. This is cited as evidence of the connection or continuity of the Harappans with the Sanskritic Aryans (Danino 2008).

- Under the supervision of RS Bisht, and with the collaboration of Tokai University, Japan, a comprehensive reconstruction of the ancient city has been carried out using computer simulation. This can be accessed at the website of the Archaeological Survey of India.
- No photographs have been included due to photography being prohibited on site.
- The article and all its content has been created on GPL software on an open source Linux system.

Havelis and chhattas of Saharanpur

O C HANDA

ABSTRACT

Saharanpur is a sizable and well known industrial city in Uttar Pradesh. It has a very rich and long history of arts and handicrafts, out of which it is the carved woodwork that has earned it a worldwide reputation. However, for those who are interested in the history of traditional Indian domestic architecture and town planning, this city has something more to offer; for instance, its fascinating chhattas and profusely carved and painted havelis. These chhattas and havelis represent a very harmonious blend of the traditional Indian and Persian architectural mannerisms, which is popularly known as the Indo-Islamic architecture.

INTRODUCTION

Situated in the north western part of the Ganga-Yamuna doab, Saharanpur must have remained an important trading centre on the traditional route that linked the Himalayan interiors since ancient times. However, very little is known historically about the pre-Islamic scenario of this region, notwithstanding the fact that the Ganga-Yamuna doab has been the cradle of Indian civilisation from its nascent days, as revealed from several archaeological finds around the present city of Saharanpur.

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Carved architectural woodwork

Pottery artefacts of various phases of the Indo-Gangetic (popularly but erroneously called the Indus or Harrapan) civilisation have been found in the vicinity of the present Saharanpur city at locations such as Ambakhedi, Badagaon, Bahadurabad, Hulas, Nasirpur and Naya-Bans (Handa & Jain 2000, p. 20). Besides, the Ashokan rock inscription at Kalsi and the Ashokan pillar inscription of Topur (near present day Khizarabad), both within geographical proximity of Saharanpur, are the two most important archaeological

evidences that affirm the antiquity of this locality as an important market centre. Firoz Shah Tughlaq (CE 1351-1388) is known to have shifted that Ashokan pillar inscription from Topur to Delhi in CE 1356 (Handa 1994, p.151).

The name of Saharanpur figures for the first time during the regime of Muhammad-bin-Tughlaq (CE 1325-1351). He is known to have visited a *sufi* (saint), named Shah-Harun Chisti, who lived on the bank of Paon-dhoi stream. The Sultan, being impressed by the divine disposition of the saint, named that place as Shaharunpur, which eventually became known as Saharanpur. Bahlul Lodhi (CE 1451-1489), the founder of Lodhi dynasty, settled some Afghan artisans here. There still exists a *muhallah* in the city known as the Bahlol Muhallah*,* that is the home for the world famous artistic wooden handicrafts of Saharanpur.

Akbar (CE 1556-1605), having realised the strategic location of Saharanpur in the doab region renovated an existing brick fort (now central jail) in the city and garrisoned it under a governor, named Shah Ranbir Singh, a wealthy Jain noble of the city. Local heresay holds that the city derived its name from him. A Jain temple ascribed to him still exists in the Muhallah Chaudhariyan in the city. There are several gates, mosques, *muhallahs, sarais*, temples, wells and many other structural relics of periods ranging from the beginning of Common Era to the Mughal and later times in and around the city, languishing in various stages of degradation. The still surviving and profusely carved massive entrance doors and the profusely painted and embellished interiors and exteriors of the large and elaborate ancient havelis of the wealthy Jain nobles still preserve the impressions of anterior art tradition. Of great architectural interest are the chhattas of these havelis that link the two structures across the street without causing any hindrance to the pathway, but maintaining the privacy of the Jain households.

THE JAIN HAVELIS

Many of the havelis are still intact in their pristine condition, with all the layout, architectural, decorative and engineering features almost intact. All these ancient havelis are double storeyed structures (a few of them are even multi-storeyed), built in the quadratic layout. The interior of these havelis is approached through a large and embellished entrance door, set in an elaborate cusped archway. The massive wooden door, profusely decorated and carved, opens into a large anteroom. From the opposite side of the main door, a small door

opens into the central courtyard, wherefrom access is provided to the rooms on the ground floor. From the side doors in the anteroom, private entry is provided to the inner apartments. In some cases, a flight of narrow stairs from the anteroom leads to the upper floors.

The first floor of most of the ancient Jain havelis is approached through the staircase provided from the courtyard that ends up at the cantilevered passage. From that overhanging passage, the rooms on the first floor are accessed. The rooms, having high ceiling, are well ventilated with doors and windows. The inner surfaces of all the walls are plain and flat washed. However, these flat areas have been treated with false niches, cusped arches, cornices, etcetera in the Islamic architectural style to ensure sober ornamentation according to the Islamic tenets, but the exteriors, especially the façade, are profusely and artistically ornamented through juxtaposition of several architectural and artistic features such as projected ornamental balconies, windows fitted with stained glass panes and murals. The murals on the facades of the havelis are a unique feature, deeply imbued with a nostalgic flavour.

The murals show linkages from the Pahari Garhwal School of painting with use of figurative themes from classical Indian lore, as well as the Muslim painters subscribing to the Persian style using floral and geometrical forms and motifs. There is a distinction in the preference of colours that the painters of the two religious affiliations used. In the figural and floral ornamentation done by the Pahari painters, there is a profusion of reds and yellows, while ultramarine blues and magenta predominate in the ornamentation done by the Muslim painters. The murals in havelis of Rani of Landhara; Nanda Ghati in Rani Bazaar and Jambudass in the Chhatta Jambudass, reflect the local art-style that evolved out of the harmonious blending of the painting styles of Hindu and Muslim painters. In these paintings, the Indian figurative elements and the Persian floral and faunal decorations were blended to embellish the interiors and exteriors of the mansions of the wealthy Jain nobles. In all these havelis, the workmanship is certainly better and the murals are older in comparison to the last phase of the frescoes at the Durbar complex at Dehradun and ancient *akharas* and havelis at Kankhal that represent the Garhwal School of painting.[1] These havelis are in a very bad state of maintenance. Most of the murals have already vanished and those that remain are on the verge of extinction due to the natural process of decay (Handa & Jain 2003, p. 47).

A part of structure of an ancient haveli, Saharanpur

The Jain havelis of Saharanpur are also important for their excellent stone carvings that represent a harmonious blend of Indian and Persian decorative floral devices. The richly carved doorframe of the main entrance of the haveli of Nanda Ghati and the lintel over the door from the entrance room to the interior of Atma Ram's haveli are fine examples of stone carver's skill of that age. The finest example of this art may be seen in the haveli in Chhatta Barumal.[2] The fact that the Muslim artisans accomplished these carvings is conspicuously revealed not only from the masterly treated floral and faunal elements, but also from the inapt handling of human and animal figures. Also, the entrance doors of the earliest Jain havelis of Saharanpur are equipped with heavy wooden doorways that are some of the finest examples of artistic woodwork that reflects the Indian classical tradition of art in woodwork.[3] They show evidence of pre Islamic and purely indigenous devices and motifs, common in the decorative elements of the temples of the Gurjar-Pratihar Age.[4] One of the excellent surviving examples of the classical treatment in the carving work may be seen in the doorframe of a haveli in Chhatta Jambudass.[5] This may be one of the earliest havelis of Saharanpur city. However, the classical tradition is found waning in the havelis of the subsequent period. The chisel becomes weak and shallow and the overall

effect of the treatment thinner and scattered. The stone door frame of the haveli of Rani of Landhara is an example of that declining phase. With the immigration of the Persian and Kashmiri woodworkers in Saharanpur during the succeeding period, the alien influence becomes stronger in the woodcarving and structural embellishment.

TYPICAL FEATURES OF THE MUSLIM HAVELIS

Against the quadratic layout of the Jain havelis, the ancient havelis of the Muslim nobles are laid out in a rectangular plan. The haveli of Ghaliv Rasool in the Chhatta Jambudass, now named as Roop Niwas and owned by a Jain family, is a typical example of the Muslim haveli that was studied as a typical example. This large double storeyed haveli, laid out in a rectangular plan, is divided in two sectors. On the left sector is the *diwan-e-aam,* i.e., the common sector, where the outsiders could enter and assemble. A huge wooden gate that could even provide access even to an elephant is provided in this sector. This gate fitted into an elaborate entrance arrangement with an intricate cusped arch, the main entry to the haveli. It opens into an open courtyard through an anteroom. On the sides of the anteroom are the doors to the compartments on both sides. This sector is provided with an articulate veranda that provided access to a large assembly hall, having many doors opening to many side and back rooms. This hall has a two storey high ceiling, with the curtained windows opening into the hall from the first floor. The women of the haveli could watch the recreational programmes, like dancing and singing from these windows without attracting notice of the people sitting in the hall. The other sector on the right is the *diwan-e-khas* or the private apartment. A door from the open courtyard of *diwan-e-aam* opens into the *diwan-e-khas* (central courtyard of private sector). The kitchen and stores arranged in the linear layout between these sectors, also serve as the divider between the two. In this part, the family lived in the rectangular rooms, arrayed around the central courtyard. Each of the large living rooms has three doors opening into the courtyard. This ancient haveli of the Muslim noble has plain exterior and interior, but these are treated with the false architectural features, such as niches, cusped arches, and cornices.

THE CHHATTAS

The significant feature of the ancient Jain havelis of Saharanpur was their chhattas. The chhatta is an

Top: An ornate facade of the haveli of Rani of Landhara, Saharanpur, Bottom: An ornate exterior of the haveli of Rani of Landhara, Saharanpur

View of the carved architectural woodwork

Part of the exposed floor in a haveli

architectural term typical to Saharanpur. It defines a covered wooden overbridge that joins the two havelis of the same owner situated across the street. The chhatta provided access to the family members, especially the womenfolk, from one haveli to the other without attracting public gaze. That was an ingenious way of not only combining two separate mansions of the same household into one unit, but also to maintain the privacy. With the settlement of the Muslim families in their midst, the lifestyle of the wealthy Jain nobles also underwent significant change. Living amidst the people alien to their faith, they harboured a feeling of insecurity. Therefore, to make their havelis well protected from the strangers, they made the wooden entrance doors of their havelis heavier and stronger by providing sturdy battens and bracings and fixing metallic bosses and large and pointed iron, identical to the ones found on the entrance doors of the forts of the medieval times. Another significant change in the decorative treatment of the door panels was the

replacement of figural carvings of the deities by the intricate latticework. The overbridges, often used to connect the havelis for easy movement of the ladies came to be known as chhattas.

Of many chhattas that existed in the old part of Saharanpur, where the Jain population has remained concentrated, only about a dozen are now extant as the relics of medieval architecture. The others have become extinct under human apathy and the changing lifestyle. Of these, Chhatta Barumal, Chhatta Hulasrai and Chhatta Jambudass, though badly weathered, are the best surviving examples. All these chhattas are multi-storeyed structures up to four storeys, some of them with profusion of wall painting, woodcarving and intricate latticework. One can have a magnificent panoramic view of the whole city from atop their roofs.

The carved wooden doorframes, shutters, screens (*pinjara*) and other structural parts of these chhattas

Painted entrance of one of the havelis, Saharanpur

are some of the finest examples of the Indo-Islamic woodcarvers' art that flourished at Saharanpur under the patronage of the Jain nobility. In these ornamental works, intricate geometrical forms, floral decorations, *chinar* leaf motifs and entwined grapevines (*angoori*), have been combined with the zoomorphic devices like *makers* and peacocks. The Indian classical motif, *purnghat* has also been very aesthetically incorporated as a decorative element. This schematic juxtaposition of the motifs drawn from different sources; alien and native, represents a hybrid decorative art style of the medieval times.

The latticework, accomplished by the fretsaw perforation technique, is known to have originally developed in Persia, where it was known as the *pinjara*. The immigrant craftsmen probably simultaneously adopted that device in Kashmir and Saharanpur. It is still one of the most popular devices for manufacturing artistic screens at Saharanpur. However, the use of *pinjara*, calls for a bit of notice to establish the Persian link of this architectural feature with the woodcarvers of Saharanpur. As one of the legacies of Iranian artistic tradition, this decorative architectural device had been very common with the imperial Mughal architects and craftsmen in India. They embellished corridors, railings, panels and openings with intricate and artistic screens made in red sandstone and marble for the forts, palaces, mosques and tombs at Agra, Delhi and elsewhere. The woodcarvers of the Mughal period perfected latticework in wood, which they used for windows, railings, ventilators and ornamental screens.

It was that device, which the immigrant woodcarvers introduced at Saharanpur for the chhattas.

CONCLUSION

The chhattas and havelis of the traditional Jain families of Saharanpur are of great importance for their unique architectural style. The approach evolved by integrating and compromising not only the traditional Indian and Islamic art and architectural styles but also the lifestyle. The discovery of the ingenious acoustic system in a Jain haveli may clearly indicate that the wealthy Jain nobles of Saharanpur had adopted the lifestyle of Mughal courts. Though, the Jain havelis did not have the *diwan-e-khas* and *diwan-e-aam*, yet the Jain nobles had devised ways to have the luxury of dance and music apartments and *purdah* in their havelis. Accordingly, their havelis were not only equipped with the   private *rangshalas*, but the chhattas also took care of the family privacy. Through the study of these havelis and their related socio cultural complexities, a link can be established with the Indian classical tradition with modern times and account for the cultural diversity that have contributed to its dissemination and lingering continuity. In fact, it was only through those evolutionary linkages, that the indigenous classical and folk art and craft traditions could interfuse with the Persian mannerism to formalise into the hybrid Indo-Islamic art in the Indo-Gangetic mainland.

With the changing socio-economic conditions, the joint family system is disintegrating into smaller nuclear

Richly carved wooden door of an ancient haveli of Chhatta Jambudass, Saharanpur

units. Under those imperatives, the havelis and chhattas of Saharanpur are being divided and subdivided into smaller units, each of them being owned by a separate nuclear family. Consequently, the common interior and exterior structural parts of these grand mansions, richly filled with the superficial niches, ornamental balconies, enchanting murals, intricate woodcarvings and ornamental stone work, are suffering neglect and gradual decay. Some of the inmates of these monumental edifices are even deliberately removing those decorative elements to modernise their dwellings. They strongly feel, and perhaps rightly so, that it is beyond their means to maintain the large havelis in their pristine grandeur. In spite of the weathering effect and human apathy, many of the richly and intricately carved structural elements still retain the fine textural finish and sharpness. Therefore, there is an urgent need to conserve these magnificent art works.

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Notes

[1] The figural murals of these havelis reminisces the Pahari murals done about the waning days of that art-style in the Durbar complex at Dehradun and the ancient *akharas* and havelis at Kankhal, where the painters from Garhwal are known to have worked. In fact, there is definite evidence to affirm this linkage.

[2] Here the stone carver has so delicately handled yellow sandstone as if he was working with wax. Every inch of the facade of this haveli is so profusely treated with the stylised brackets of exquisite grace, slender yet monolith posts, pillars, panels, etc., that one is instinctively reminded of the marble work in the Mughal fort-palaces.

[3] These doors are made of the multi-element outer frames, including series of registers and panels over the functional lintel and the jambs. The whole structure may cover almost one-third of the façade. Normally all entrance door structures in Saharanpur are flat, without any superimposed or projecting portion, yet these are remarkable for their intricate

designs, deep and sharp carving and delicate treatment. The raised portions of these carvings give a subtle impression of calico-printing blocks. No arches are seen in the carved areas of the wooden part in the earlier havelis. However, in the *havelis* of the later period, cusped arches may be found in the brickwork done over the wooden structure of the door. In the doors of the later period, not only arches are depicted in the carved area, but also geometrical patterns, suggestive of *pinjara* work, are found. The local Hindu artisans have executed the *lata-pallav* floral carvings on the multi-elemental doorframes of the earlier period in deep relief and undercuts in the manner of stone carving for the doorframe of a temple. There may hardly be any evidence of the alien influence in these carvings. The motifs, like the *ashtdal*, sometimes set in the floral creeper, stylised *ghat-pallav*, swastika symbol and mystic diagrams,

are some of the very striking decorative elements, which are so commonly found in the ancient stone temple architecture. The handling of chisel is so mature in these woodcarvings that the continuity of this handicraft from the earliest times can hardly be doubted.

4 No cognisable evidence of the pre-Muslim Gurjar-Pratihar period is found in the Ganga-Yamuna doab because of the mass scale destruction of the temples and buildings. The distant echoes of that vibrant art tradition may be found, mostly intact, in the temples of mountainous interiors towards the north. In the plains, that classical art tradition became subterranean under the unfavourable conditions, but that continued to live on in the mountainous interiors even during the later centuries. However, the hereditary village artists and handicraftsmen in the doab area religiously kept preserving that art tradition in the humble and

inimitable manner, and whenever occasion permitted, they continued to embellish the houses of their patrons in the traditional diction. Thus, despite the political upheavals, the art tradition continued to live on.

5 The door panels of this haveli, and of many other contemporary ones, depict the Hindu deities such as Muralidhar-Krishna with Radha, Shiv-Parvati, Durga and Hanuman, in the main field with the mystic diagrams on the corners. These diagrams, with the inset *ashtdal* lotus, are so depicted as to suggest these to be the symbolic representations of some deity. Since, lotus is one of the prominent attributes of the Goddess Lakshmi; this diagram may be her symbolic representation. The depiction of the Goddess of Wealth on the entrances on the havelis of the Jains is justifiably indicative of their money-related occupation and aspirations.

Post independence growth of Delhi
A legal perspective

PANCHAJANYA BATRA SINGH

ABSTRACT

This article presents a legal overview of the post independence growth of Delhi, including the peripheral National Capital Region (NCR). It highlights important legislations and legal mechanisms that fundamentally affect the city, ranging from those that enable good governance, the ones that protect built and natural heritage to those that empower inhabitants. Instances of judicial intervention emphasise how each organ contributes towards betterment of the city. The article examines issues like composition, layout and roads of Delhi, its vertical and horizontal expansion, protection from natural calamities like earthquakes and floods, preservation of heritage, ecologically fragile areas and peculiarities like hoardings, hawkers and cattle, in the backdrop of the dense population of the city. It discusses possible solutions for the ever expanding metropolitan. Latest features like the metro rail, sub cities and newer developmental activities that will change the face of Delhi for the forthcoming 2010 Commonwealth games have been accorded due mention. Amongst solutions, apart from legislative intervention and better enforcement, emulation of other successful models, community participation and decentralisation have been cited.

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An erstwhile unauthorised colony in Delhi

Dwarka, new home to many people

INTRODUCTION

Legal examination of the growth of a mega city like Delhi is essentially intertwined with its history, geography, demography, layout, planning in the past and future. There are many issues that generally afflict behemoth cities the world over, together with issues peculiar to Delhi that perhaps lend a distinct identity to it. The overview however would remain incomplete without references to the external suburbs of Delhi that have become de-facto parts of the city as it spills over its limits. Various civil and criminal law enactments; general and specific, aid immensely towards efficient management of the city. Still, the success of a city cannot by any means be attributed solely to codified laws and enforcement mechanisms and depends heavily on sound policy decisions. It can be said that public spirit matters over the legislative spirit, in making a city successful. Delhi's success is by no means a temporary phenomenon because the city has enjoyed prominence since ages.

COMPONENTS AND CHARACTER

The historical roots of Delhi are deep and this fact merits mention here, even if minimally, because a growing historical city must strike a careful balance between what must be conserved versus what may give way to the contemporary in view of its modern requirements. Delhi is richly studded with monuments and heritage buildings that showcase its rich history and culture. Much of the city's growth in the past occurred in the plains along the river Yamuna that confers a distinct geographical identity upon it. The ridge comprises semi arid natural forests in the city

and is crucial to preserving the fragile ecosystem of the area. It originates from the eroded Aravalli mountain ranges that enter Delhi from Rajasthan and Haryana and contributes richly to the geography and history of Delhi. The river Yamuna, the Ridge and the Aravallis together form the most prominent, crucial, yet most abused and neglected natural resources and physical features of the city despite ample legislation to protect these.

The city has other distinctions too. It is amongst both the most polluted and the greenest cities of the world. Apart from being the capital of the world's largest democracy, the city is home to more than 100 million people in an essentially cosmopolitan setup. Needless to say, the population density is one of the highest in the world, with more than nine thousand people per square kilometre. People from all parts of the country and abroad have settled permanently and newer settlers are added each year. The city is home to the richest, the poorest and a huge middle class. A large number travels from distant towns like Meerut and Agra to the capital each day for work. Delhi is a prime political, industrial, business, educational and health centre. While Lutyens' Delhi is regarded as a fine example of futuristic city planning and architecture with its wide tree lined avenues, spacious, majestic bungalows in a highly aesthetic manner, the focus of this article remains on post Independence growth of Delhi which for the most part lies beyond the lavishly laid out design of the early 20th century.

With its burgeoning population, housing is a prime concern for the city and its inhabitants. The city grew suddenly and rapidly after independence,

Defacing will now be punishable

A swank bus stop

often in a haphazard manner. Delhi encompasses about 275 revenue villages too, many of which are now urbanised and treated as such by the municipal authorities. Several villages lie in the 'Lal Dora' areas where building bye laws are minimally or not at all enforceable. Further, many independent unplanned and unauthorised colonies have mushroomed all over that lack severely in basic amenities like water and roads including up market areas like Sainik Farms. Most were regularised after prolonged political deliberations. It is noteworthy that much before regularisation, most of these colonies were provided electricity and telephone connections by agencies run and managed by the government. The situation highlights the lack of a consistent, synchronised action plan against unauthorised growth and exposes a gap in management of the growing city.

The Government of India set up a planning board to prepare a master plan for an orderly growth of the city to maintain and preserve its character and heritage. The concept was accepted for future use in 1962. The Delhi Development Authority (DDA) was also set up for planning and development, formulating land use plans, zonal and building byelaws, mostly from a functional and engineering point of view. The Delhi Development Act, 1957 enables authorities to act against violators of the Master Plan or Zonal Plans by stopping construction activity, demolition, alteration and imposition of penalties upon offenders. The aesthetics of the city was entrusted to the Delhi Urban Arts Commission that was constituted vide an enactment notified in 1974 to preserve heritage, promote attractiveness, good design and functional utility of the city by striking a balance between

traditional and modern city keeping. The commission is empowered to direct or influence modification or even removal of appendages like street furniture and hoardings and can promote beautification in various ways, for example by installing fountains. The twin municipal corporations, the Municipal Corporation of Delhi and the New Delhi Municipal Corporation, cater to other civic requirements of the city with the latter doing commendable work, partly because it caters to the up market and politically important New Delhi area that is home and work place to many senior officials of the government.

HOUSING: VERTICAL AND HORIZONTAL EXPANSION

In furtherance of the Master Plan, the DDA has been constructing and providing cheap and basic housing to the city's populace and its flats have been particularly sought after, mostly because of lower pricing in an increasingly expensive city where owning a house is a dream for most. Other enactments like the Delhi Cooperative Societies Act, 1972 were a step towards providing affordable community housing to the common man. It is however a hard reality that most mass housing processes and projects have often been subjects of litigation before special and regular courts in the nature of complaints, writs, civil suits and even criminal cases have emerged amidst allegations of various irregularities in allotments, construction quality and pricing or other financial implications. At times special investigative authorities like the Central Bureau of Investigation (CBI) had to step in, to probe irregularities in the execution of many mega projects. Direly necessitated expansion has frequently occurred

View of Badarpur on Mathura Road

through the urban extension projects of the DDA that revolve around two main strategies; to increase the population holding capacity of the existing urbanisable area and extension of present urban limits of the city.

The strategy is amply visible in the increasing vertical and horizontal growth of the city. Due to ever increasing inflow of new settlers, the skyline of the city and the National Capital Region (NCR) has begun to rise predictably. How conducive high rise buildings are to leading a good quality of life is questionable, given the ever shrinking sizes of homes and offices and innumerable infrastructure problems that are even more pronounced in suburbs like Gurgaon, Faridabad, Ghaziabad and Noida, not to mention associated law and order issues. Building byelaws in Delhi that restricted heights of buildings at four to seven storeys earlier now permit construction 12 to 16 storeys high. Many such apartments have defective designs and are afflicted with absence of sunlight, seepage problems and low utility layouts. Issues like maintaining architectural harmony have been grossly ignored in many newly developing areas and the apartment culture

is gaining momentum as more and more erstwhile single family plots get converted into multiple builder flats over the same plot size, accommodating more people than ever in increasingly over populated and cramped surroundings. The situation turns nasty when simple activities like parking of vehicles become stressful. It is not uncommon to find neighbours as rival litigants over previous non issues like parking.

Mushrooming of such astonishingly high priced apartments is visible in most of Delhi, for example in Greater Kailash, quiet bye lanes of Bengali Market and the much commercialised Lajpat Nagar. In cases like the latter where a policy of mixed land use for residential and commercial purposes is adopted, navigation of even pedestrians is highly restrained, leave alone of vehicles that only add to the clutter. The quality of physical environment and visual character in these areas is often far from pleasing. The horizontal and the vertical growth of the city is reflected in the emergence of newer and better planned sub cities like Dwarka, Rohini and Narela pushing the limits of Delhi wider and higher.

Barakhamba road in a mess

DISASTER MANAGEMENT

The fact that vertical growth is here to stay in the region is highlighted by the plan to unveil the world's highest skyscraper in Noida, 710 metres high by the year 2013. A worrying aspect of increasing vertical growth is the fact that Delhi lies in seismic zone IV, implying that an earthquake in the city can cause considerable to heavy damage to buildings with no special earthquake proofing. Such disasters in the past stand testimony to the fact that most death and destruction resulting from earthquakes was caused by collapse of manmade features. The 1999 Chamoli earthquake with magnitude 6.5 in the Himalayas that occurred 280 kilometres away from Delhi caused damage to buildings in Delhi. The damages occured in ground storey partition walls of multi storeyed apartment building in Patparhganj, East Delhi. The architectural fins at Shastri Bhawan collapsed in New Delhi. Thus, even an earthquake with medium magnitude can prove catastrophic if the epicenter lies in Delhi or adjoining areas. Most new constructions, especially high rises and public utilities like flyovers,

metro have incorporated earthquake proofing in their design and conform to acceptable standards laid down by the Bureau of Indian Standards and guidelines ratified by the Ministry of Urban Development and Poverty Alleviation. Many group housing societies and other buildings have been retro fitted to make these safer.

However there is no codified legislation to mandate adherence to such standards either for upcoming or existing constructions. Strengthening of enforcement mechanisms, within existing frameworks or by enactment of specialised legislation can prevent disastrous consequences of any such natural calamity.

Flood proofing is another area that merits mention in view of instances of water overflowing into densely populated localities adjoining the Yamuna, often spilling into Model Town, Delhi University areas. Water logging commonly cripples routines throughout the NCR. Rapid drainage systems would ease the problem that plagues nodal points like Minto Bridge crossing that leads to the outer circle of Connaught

Place. The municipal authorities have installed pumps to prevent debilitating water logging in crucial low lying points during the monsoon.

HERITAGE MANAGEMENT

Natural heritage

The city's biggest natural source of water, the Yamuna no longer appears like a river in Delhi and continues to resemble a huge drain that carries waste and un-potable water unfit to support any form of life, aquatic or otherwise. The Yamuna Action Plan launched in April 1993 amidst great expectations has been an abysmal failure. The loss is not only of a very important natural feature and ecosystem of the city but also of potential revenue that could have been generated by developing the river for tourist, sporting and recreational purposes. Delhi can emulate successful development models of rivers, river ways and recreation in many parts of the world, for example river Rhine that is a prime tourist and sporting attraction in the Alsatian region of Europe.

The other natural features of Delhi too require strict enforcement of laws for protection and conservation. A section of environmentalists and planners believe that nascent construction in the wake of upcoming 2010 Commonwealth games in Delhi would deplete the Ridge forests further and destroy its fragile ecosystem to the environmental detriment of Delhi. The fate of the Aravallis appears to be dismal as well given the massive construction in areas like Faridabad lending a heavy blow to the rugged natural beauty of the eroded mountains apart from adversely affecting the water levels of local lakes like Damdama and Badhkal. New luxury hotels, penthouses, apartments and other constructions are on in full swing pushing the Aravallis into the background and perhaps into oblivion as builders tout the new buildings as new posh addresses, given its faint scenic background. Unbridled mining in the Aravallis has been a concern for a long time, strongly connected to this new construction activity in the outskirts of Delhi. Intervention of the Supreme Court has only partially reigned in detrimental mining activity but a lot more needs to be done to preserve this vital natural heritage. The Central Empowered Committee appointed by the apex court has suggested complete prohibition on mining in the area.

Built Heritage

There are legislative mechanisms in place to protect and conserve it through two prominent central and state enactments, the Ancient Monuments Preservation Act, 1904 and the Ancient Monuments and Archaeological Sites and Remains act, 1958. Heritage preservation is likely to get a further boost with the upcoming 2010 Commonwealth Games as the government executes plans to restore 46 national monuments and to initiate tough action against miscreants who deface public property. The recently notified Prevention of Defacement of Property Act, 2007 is an initiative of Delhi government that entails fines and imprisonment up to one year against offenders for defacing buildings, structures and even trees, poles, fences or other erections in public view. The provisions will curtail activities like sticking bills, painting, graffiti and other objectionable actions that abuse public property. Expecting heavy tourist rush, the government has already initiated cleaning and beautification of monuments for aesthetic appeal, for instance night lighting of prominent monuments like the Purana Qila that are also being used to promote culture and music in the city. Building byelaws have provisions for protecting identified buildings, artifacts, structures, areas, precincts of historic, aesthetic and scenic value and architecturally, culturally or environmentally significant sites and even sacred groves, wooded areas and bridle paths.

Though the byelaws stipulate that new constructions must maintain skyline and conserve architectural harmony in the precincts of heritage sites, perfect harmony is not always possible. The example of heritage buildings like the Queen Mary's School in the Tis Hazari area may be cited where modern construction in the vicinity is aesthetic but the building materials or architectural styles may not essentially be in sync with the older buildings leading to a remarkable change in the character of the area over the years. However any change of use of listed heritage buildings and precincts requires prior approval of the Heritage Conservation Committee.

TRANSPORT AND INFRASTRUCTURE

Despite greater orderliness and successful provision of homes to millions, all the planned sub cities have faced acute infrastructure problems related to electricity, water, roads and transportation. The development plans often materialise after the areas are reasonably inhabited, pursuant to repeated complaints of severe inconvenience to inhabitants. A recent example is the belated construction of the Dwarka flyover that connects Dwarka to the rest of Delhi by road. The delayed commencement of the flyover finally

Metro rail changes landscape

Tidy precincts of a group housing society

View from Dhaula Kuan flyover

A world class metro station

relieved the inhabitants of Dwarka from daily stress over commuting on other connective routes that have bottlenecks like railway crossings amongst others. Even now, the state of local public transportation is substandard in most of Dwarka though the world class metro rail has successfully provided arterial connection of the sub city to Delhi. The condition of the NCR is similar, perhaps worse. Saturation and high prices within the capital and search for cheaper homes, flats or plots of land and a better quality of life has led many to settle in the bordering NCR townships of Faridabad, Gurgaon, Ghaziabad and Noida. New swank high rise apartments have grown in all suburbs irrespective of unavailable infrastructure that is unable to keep pace with the massive construction activity all around. Better coordination with the neighbouring states can solve the problem to some extent, for example transport links by road to Noida and by metro to Faridabad.

The government has initiated new successful corporate ventures like the Delhi Metro Rail Corporation under provisions of the Companies Act, 1956 and despite odds, Delhi today has many new state of the

art features ranging from the Metro rail that travels underground and high over the ground in places to many new bridges and flyovers that emerged after the Asian Games in 1980s and thereafter. Further, 24 new flyovers, many new sports venues, a games village, sophisticated traffic management systems like the Bus Rapid Transport corridors and more world class transport services are expected to commence operations before 2010.

Another notable feature is the emergence of world class malls throughout the NCR that serve as posh business and shopping centers juxtaposed with traditional markets. The aforesaid new features have collectively changed the face of modern Delhi within a few decades, though how environment friendly new constructions are, remains to be seen. Like most inhabited parts of India, street hawkers and cattle too are common on the roads of Delhi despite litigations to contain the health and traffic hazards posed by them amidst the general hustle and bustle of a heavy population, though opinions on these issues are divided. The real area of concern is the sustainable provision of

infrastructure to the rapidly increasing population of the city. The best of facilities seem inadequate given the sheer numbers using them, be it roads, houses or public transport. Decongestion is possible by systematic decentralised development as already partially done by relocating and creating offices, schools, courts and other features in new sub cities. Another way is to check the inflow of permanent migrants to Delhi though admittedly, this may be easier said than done.

ROADSIDE MANAGEMENT

Roads and few public parks have been beautified in places by erecting aesthetic railings, bus stops and street furniture, many times with private assistance. Maintenance of roads however can be improved, dedicated cycle and rickshaw lanes can be added. Main arterial roads are cluttered with litter and parallel unplanned growth thus making travel unappealing. A journey from the city towards Badarpur on Mathura Road is a glaring example of shabby roadside view despite the road being an important intercity and interstate link, leading commuters and tourists to Agra. It is common to find roads in dismal condition; often with hazardous potholes and excessive dust in NCR townships, for example in most of Gurgaon and Faridabad.

The hoardings that plagued roads in the past and posed visual pollution and traffic hazard were curtailed when the Supreme Court in October 2007 directed the Municipal Corporation of Delhi (MCD) to remove all hoardings that do not conform to prescribed guidelines. The government of Delhi earns valuable revenue through outdoor advertising running into almost rupees 800 million annually and it is best to strike a balance. Other problems like litter can be remedied less by legislation and more by awareness and punitive action in the nature of fines and community service against offenders in accordance with pre-existing statutory provisions. Sanitation workers alone cannot make the city litter free without conscious and habitual cooperation of the city's populace.

CONCLUSION

It can be said that there is a reasonable legislative cover in place to assist the development of Delhi. Apart from specialised statutes, statutory bodies and policies, general laws of the land like the Indian Penal Code, 1860 and Right to Information Act, 2005 have empowered citizens and NGOs to initiate corrective action for betterment of the city. It is however important to comprehend that though new legislation can fill prominent gaps; it is not always an effective method to ensure discipline till the people themselves adopt attitudinal changes. Local communities like resident welfare associations and trader groups have given remarkable facelift to their residential areas and workplaces, assuming responsibility for making their surroundings cleaner, beautiful and harmonious within existing provisions, considerably diminishing their dependence on civic authorities and sometimes in partnership with the latter.

Precincts of many group housing societies and small markets like Khan Market and Shanker Market demonstrate the success stories of small but significant measures like community participation that improve the quality of life. The city can be lent further class by effective enforcement of existing legislations and policies backed by sound political will and a dedicated resolve of the people to strike a balance between conservation of heritage, both natural and manmade for a better future and in synchronisation with the inevitable change. Rewarding mechanisms on the lines of the DDA's Urban Heritage Awards may also encourage improvement. Meanwhile, the vibrant mammoth called Delhi continues to be the melting pot of diverse people and produces superlative results in each sector despite its inherent chaos and hullabaloo. It seems that there prevails order amidst general disorder as those who reach the city are imbibed into it and its unique lifestyle. A metro-rail ride, for instance from Pragati Maidan to Dwarka Sector Nine, can be incredibly helpful in having a glimpse into the fascinating city of Delhi and perhaps will say it all.

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Aaraish-e-Balda
Planning of open spaces and water bodies

SAJJAD SHAHID

ABSTRACT

This article examines the expansion of Hyderabad; on the banks of river Musi, in medieval times and the significance of water collection tanks, public open spaces and gardens in the city. This led to its planning and effective management, in improving the quality of life across all sections of society. It particularly discusses the situation after the Great Musi Floods of 1908 that marked a turning point in the development of the city of Hyderabad with formulation of the City Improvement Board (CIB), set up in 1912 under the leadership of Sir Visvesvarayya. The Board, locally referred to as Aaraish-e-Balda, played a vital role in executing sustainable and long lasting solutions to further development of the city. After1948, administrators abandoned the CIB proposals and prevented the full implementation of its master plan.

In conclusion, the article highlights the disregard to continuity of sensible planning in recent infrastructure projects, political apathy and lack of participation of stakeholders in planning and policy making. It has resulted in unplanned growth and degeneration of the metropolis that once upheld some of the greatest resource based traditional styles and engineering techniques of urban planning.

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Bagh-e-Safa: *Sensitivity of CIB planning and respect for historic gardens. Source: CIB reports*
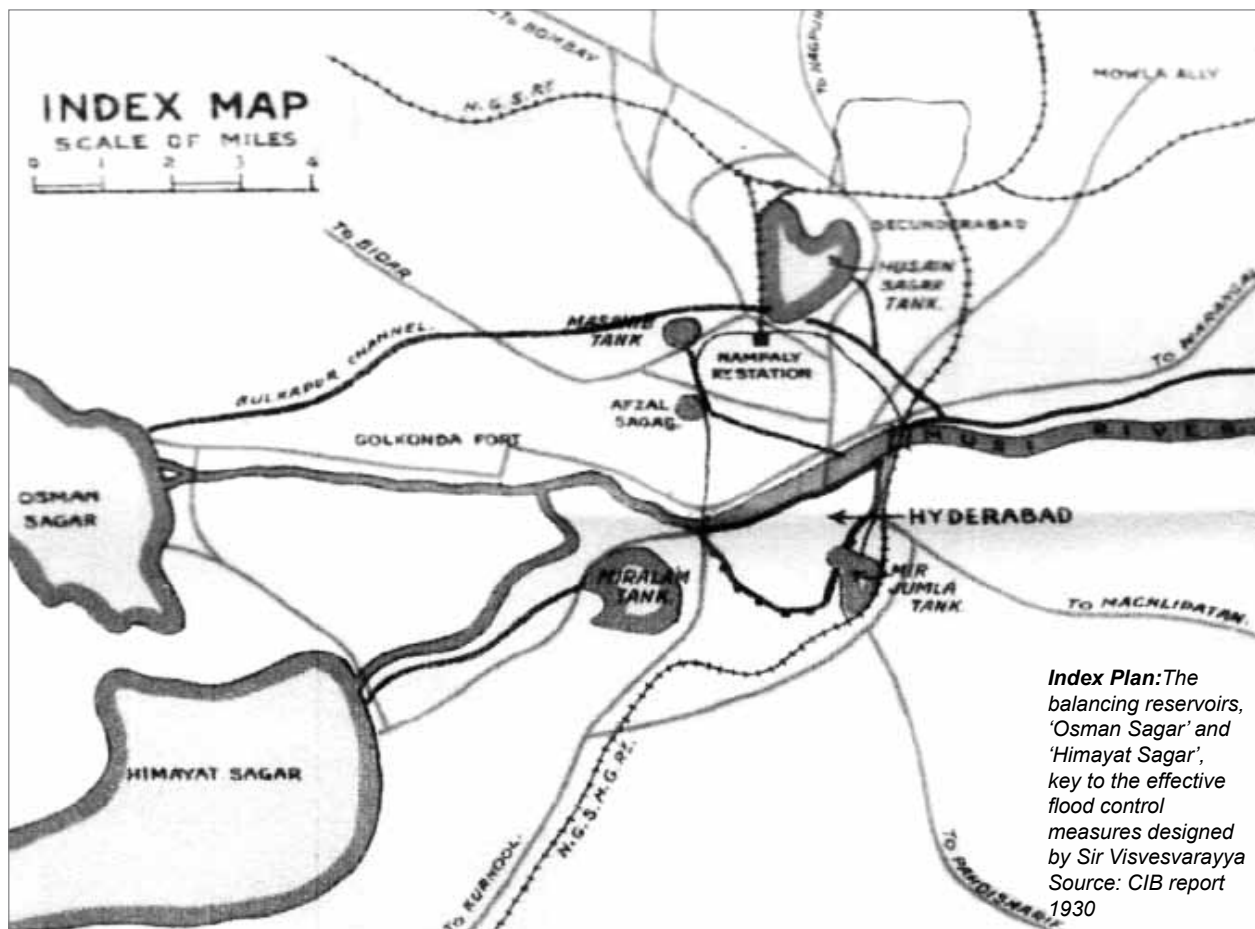
INTRODUCTION

The city of Hyderabad was founded by the fifth ruler of Golconda, Muhammad Quli Qutub Shah in 1591 AD. Planned as an open garden city, it was developed to the south of the river Musi that divides Golconda and Hyderabad. Hyderabad was confined by the river Musi to the north, Golconda to the west, and Kohi-Tur Hill to the south. Golconda was known to be a flourishing city from the 13th Century and became a dynastic centre and capital under the Qutub Shahi Sultans in the 16th century on the disintegration of the Bahmani kingdom. The need to expand out of Golconda resulted in the establishment of the Hyderabad. The construction of the Purana Pul, the founding of the city, the fortification of Hyderabad, the flood of river Musi and the formation of the City Improvement Board (CIB) as a result, are

landmark events that defined the development of the city of Hyderabad with the categorical division of the Old city to the south of river Musi and new city to its north, as it stands today.

The availability of water and its controlled use was essential to the very existence of medieval societies. The Deccan had a long history of prudent water usage, which was transformed into a fine art by the Kakatiyas. The design and construction of tanks is a notable and acknowledged engineering contribution of the Kakatiya dynasty that was recognised and used by the Qutub Shahi planners. Numerous lakes and tanks form the Kakatiyan and Qutub Shahi periods continued to serve irrigation requirements in Asaf Jahi times although most were in a state of neglect in regard to the upkeep of the retaining strength of their bunds.

Hyderabad, known officially as the Nizam's Dominions, is recorded as having 18 thousand tanks, mostly in the Telangana. Restoration of the tanks was undertaken in 1893 AD, largely funded by a programme in which lessees undertook the work at their own expense, in exchange for a tenth of the revenues generated by the tank. By 1900 AD over five thousand tanks in the State had been restored in this way. But, the system of delegation of maintenance of the tanks to the lessees resulted in poor condition of the tanks, as the lessees invariably kept their expenditure at a minimum (Wallach 1985). Later, major repair and restoration work was carried out through state patronage and under the supervision of Roscoe Allan of the Madras Engineers who was put in charge for restoration of the major tanks of the state. The city of Hyderabad and its environs had numerous small lakes and tanks, which enhanced the natural environment in beautifully laid out private gardens, orchards and garden palaces. These plantations were so profuse by the turn of the 19th century that the suburbs of Hyderabad were officially also known as '*baghaat*' or gardens districts. However, by the time of the floods in 1908, most of the historic water bodies in the Balda

(city) area had been commandeered to cater to the drinking water requirements and minor cultivation needs or in certain cases deteriorated by diverted flows to such an extent that the lush gardens of Hyderabad were but a distant memory for the denizens. The two major balancing reservoirs of Osman Sagar and Himayat Sagar upstream of the city served the dual purpose of checking the erratic seasonal flow of the Musi and providing for the water needs of the city. This new source of supply for the city enabled the use of water from old lakes and tanks available for irrigating the proposed parks and gardens. In certain areas, the lakebeds were to be drained and reused as open spaces and parks. The CIB proposal for creation of the two reservoirs should thus be taken in the historic perspective of Kakatiyan - Qutub Shahi water management legacy, actively pursued throughout the Asaf Jahi period, especially during the reigns of the last two Nizams. Mahboob Ali Khan's ensuring Visvesvarayya's involvement in both the Flood Control Programme and CIB activities, and their shared conviction that traditional water management systems could only sustainably work in the Deccan, ensured the success of these schemes.

Index Plan: The balancing reservoirs, 'Osman Sagar' and 'Himayat Sagar', key to the effective flood control measures designed by Sir Visvesvarayya Source: CIB report 1930

FOUNDING AND FORTIFICATION OF THE CITY

Golconda Fort had become crowded, by the end of the 16th century, resulting in the spread of disease and pestilence. The nobility of Golconda had already begun to move out. They developed gardens and orchards with palaces and country houses right up to the banks of the Musi. The tomb and garden of Mulla Feroz near Mustaidpura, 'Mulla Khayali Ki Baghichi' in the present day Begum Bazaar area, and other similar surviving structures and place names are ample proof of this initial spread of the city. The Purana Pul, constructed by Ibrahim Qutub Shah (1550-1580 AD) in 1579 AD, was the first link across the Musi River from Golconda that opened up possibilities of settlement on the southern bank of the Musi, and hence, the founding of the Hyderabad in 1591 AD. The city was planned according to the lofty ideals of the founder Mohammed Quli Qutub Shah (1580-1612 AD), establishing him as a great builder of the Deccan[1]. It was laid out to a grand scale with gardens and fountains generously spread throughout the city; comprising of piazzas, palaces, office complexes, *hammams* (public baths), *sarais* (rest houses) and markets. Charminar, the triumphant archway, was the focal point from which wide boulevards led off in the cardinal directions. Grand public buildings were constructed and enchanting gardens were laid out, especially on the banks of the river. The more famous gardens of the Qutub Shahi period include private ones like the Ibrahim Bagh, Nagina Bagh and the Naya Qila (in reality an adjunct to the old Golconda Fort constructed to improve defenses after the first Mughal siege) and those open to the public like the gardens in the royal Qutub Shahi Tomb Complex and the Bagh-e-Safa.

The triple fortified town of Golconda with the Fort in the middle; separated from the centre of Hyderabad by eight and a half kilometres, continued to serve as the defense post for the latter. With the fall of Golconda in 1687 AD, Qutub Shahi domination of the Deccan came to an abrupt end. Hyderabad bore the brunt of the attack and Mughal administration of the Deccan thereafter was headquartered in Daulatabad. The unsettled conditions of the Deccan following the death of Aurangzeb resulted in Mughal General Nizam-ul-Mulk asserting his independence and ending up in possession of a major part of the Deccan in 1724 AD. Soon after that, Hyderabad city was enclosed within protective walls, which were completed in 1740 AD. The security provided by the walled city resulted in resettlement, which further spurted with the shifting

of capital to Hyderabad by Nizam Ali Khan, Asaf Jah II. Hyderabad thereafter regained its lost importance and became the capital of the Nizam's Dominions. Construction activity had commenced soon after the 'walling up' of the city.

THE GREAT MUSI FLOOD OF 1908

Initially, Hyderabad developed on the southern banks of Musi. Triangular in shape, the city's layout had a three mile base along the river. With the passage of time and an increasing population, the city expanded mainly on the southern bank. The construction of the British Residency on the northern bank of the river in 1806 gave impetus to development and encouraged settlement. By the end of the 19th century both banks were significantly populated, especially along the river. The river Musi originates from the Anantgiri Hills in Vikharabad, about 90 kilometres west of Hyderabad and meanders eastward passing through the city before eventually merging with the Krishna more than 160 kilometres downstream. The river is shallow primarily due to the granitic bedrock over which it flows. A major tributary, the Esi joins it a few kilometres upstream, close to and south of the Golconda Fort. With a watershed of 2,300 square kilometres (Wallach 1985), the Musi drains hilly areas before reaching the relatively flat topography around the city. This sudden change in its rate of descent causes the river to slow down and spread out whenever it receives heavy inflows. Adding to the problem were 788 tanks (Wallach 1985) of variable vintage, spread out in the watershed area, most of them in disrepair and prone to breaching at times of heavy rainfall. It is not surprising then that since 1577 there have been 13 incidents of significant inundation of the city (Prashad 2001, p. 231). The worst of these, and the last, occurred in 1908 and set in motion a chain of tragedies which brought on a succession of tribulations on the people of Hyderabad. The devastating flood was followed in successive years by severe drought and the onset of plague which claimed the lives of a significant number of the populace as is evident from the decline in population figures of the period. The full extent of the tragedy was recorded in a chronogram as '52 localities washed away and two lakh dead'.[2] The devastation was not limited to just the city but was quite widespread.[3]

Eyewitness accounts of the 1908 flood and its fury are indicative of the reasons for this recurring problem. Although it had been raining for a number of days immediately preceding the deluge, the downpour further intensified on October 27, 1908. The increasing volumes emanating from the Musi watershed, swelled

with outflows from breached upstream tanks and assumed disaster proportions on the following days. Breaking its banks, the river rushed into the City. The continuing rainfall worsened the situation as the City's drains open into the river, blocked up by the elevated flow in the Musi and these started flowing in reverse.[4] By the time the river abated, large tracts along its bank had been swept away. Apart from the stretch of bazaar from the Chaderghat Bridge to the Municipal Office, hardly anything in the Darulshifa area was left standing. Numerous building all over the city and parts of the city wall had also succumbed to the deluge.

The devastation was worse on the northern bank. While the city wall had prevented large scale encroachments on the southern side, the northern bank did not have any such barrier. The river had changed course by the mid 19th century and as most of the ancient bulwarks and stone defenses had been swept away in earlier floods, the settlement of Chaderghat along the northern bank was more dense and prone to devastation whenever the Musi was in spate.[5] Nizam's Government had as a matter of policy decided against reconstructing any barrier to discourage renewed settlement.[6] The Residency and its immediate surroundings were the only part on this side where preventive and remedial measures had been affected after the flood on September 17, 1849. In 1908 the unprotected northern bank bore the brunt of the flood's fury and the loss of life and property on this side was significantly higher.

SETTING UP OF THE CITY IMPROVEMENT BOARD

Looking for long term and effective solutions to the many ills that plagued the city, Mahboob Ali Khan commenced the process of 'improvement' with a search for the right person to handle the future planning of Hyderabad. Refusing offers of the services of British experts, including that of the then Viceroy Lord Curzon, who was willing to depute Sir Michael Esthesol, Director General of Irrigation, Government of India, and ignoring the availability of TD Mackenzie, Chief Engineer of the Nizam's Dominions, he chose a native expert, Mokshgundam Visvesvarayya for the job[7]. This was not just a pointed snub at the British, who had already antagonised the Nizam with their unreasonable treatment of the medical advances made by the Dominion through their 'Chloroform Commission', but an informed decision if one takes into account Visvesvarayya's role in the Irrigation Commission (1901-1903). Set up by Lord Curzon to find solutions to the irrigation problems after the

British finally admitted their total failure in resolving issues of water management, the 'Commission' invited local experts, Visvesvarayya among them, to propose solutions based on the traditional irrigation systems of medieval India. Although the Imperial Government accepted Visvesvarayya's recommendation of the 'Block System of Irrigation' dependent on the historic mode of numerous small to medium sized tanks irrigating downstream areas, the administrative component of his proposal calling for assured employment to ryots in the off season was ignored by the administrators (Wallach 1985). The acceptance of Visvesvarayya's expertise in the field of flood control and water management having thus been established, the Government of India had to grudgingly consent to his appointment by the Nizam to a post and on a salary normally the prerogative of British officers.

Visvesvarayya submitted his preliminary report to the Nizam's Government on October 1, 1909. His recommendations of a flood protection system for Hyderabad and also for its 'improvement' could not commence in the lifetime of Mahboob Ali Khan who passed away in 1911. They were however taken up by his successor, Osman Ali Khan Nizam VII.

PLANNING UNDER CITY IMPROVEMENT BOARD

CIB set up in 1912, was entrusted with formulating long lasting solutions.[8] Under the guidance of the renowned planner Sir Visvesvarayya, the CIB planned and executed major schemes to improve civic amenities. The floods of 1908 provided a unique opportunity to planners of the Board. Large tracts of the city, which had been relegated to slums, were now in a state where immediate reconstruction was essential. The Board was to clear these slums and provide housing and other civic amenities and had a free hand in implementing effective programmes. Prime importance was given to city planning. Those who had conceptualised and also those who implemented the CIB proposals constantly stressed the need for a master plan, in order to ensure proper implementation of the proposed schemes, over a period of time. Similar to the earlier expansion witnessed at the Golconda Fort, the nobility of the city had, due to the deterioration in civic conditions, moved out and away from the walled city. Although Hyderabad had been planned as an open garden city during Qutub Shahi times, it had in the later periods of development, not adhered to any formal plan. By the end of the 19th century it had degenerated into a seedy agglomeration of large holdings, mainly in
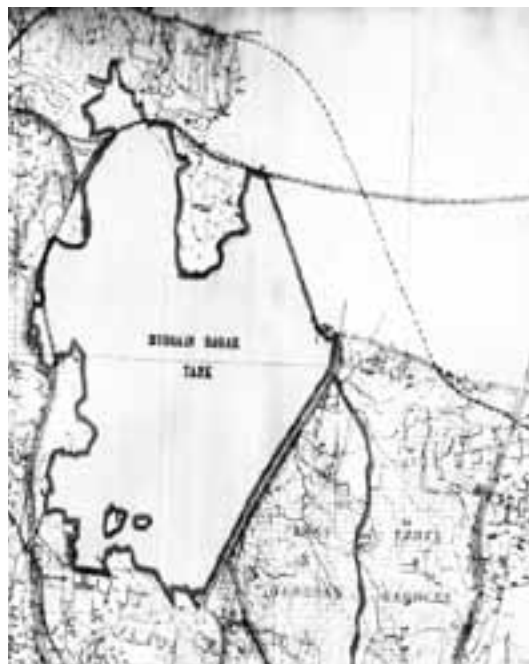
The island in the Musi where a park was proposed under CIB schemes was used in the 1980's for relocating the State Bus Terminus. A garbage landfill, which created protests by environmental activists and the public, was hastily covered up with landscaping and named 'Imli Bun Park' in 2007. Source: CIB report 1930.

Husain Sagar: *The Parks proposed in the vicinity of Husain Sagar Lake. Only a fraction of the proposed area was actually made into a park, most of the remaining land has fallen to slums and unplanned habitation. Source: CIB reports*

the possession of retainers of the nobility, surrounded by festering slums. Subsequent to the floods and plague, there was a fall in the population of the city by almost 20% in between 1911 and 1921. There was thus an urgent need to set right the living conditions in the walled city to reestablish a positive atmosphere and prevent the nobility from completely abandoning the historic core, thereby ensuring the continued well being of the remaining population.

The recommendations of Sir Visvesvarayya understandably stressed the need to prepare and follow a comprehensive city plan. Among various schemes reviewed was the need to provide parks, open places and play grounds for use by the general public. The report also commented that 'the absence of open spaces is very marked. Although there are many private gardens, they are enclosed by high walls and are not open to the public. It is necessary to bring into existence more gardens, parks and open space wherever possible, in order to provide play grounds for children and places of recreation for the public at large' (Visvesvarayya 1930).

By 1929, improvement schemes worth more than rupees twenty million had been sanctioned towards various works undertaken by the CIB. A major part of

this was spent towards acquiring land and opening up the congested localities. A number of housing projects, targeted at improving the living conditions of the weaker sections of the city's populace had already been implemented. Flood control and drainage works were also undertaken. Full implementation of the further actions proposed by Visvesvaraya would require an equal amount. His final proposal entailed an outlay of over 40 million. As part of the slum clearance and reconstruction projects, spaces had been provided for play grounds, as the post 1930 proposals intended to address the problem of parks and public gardens. It was proposed to convert the areas downstream of the existing reservoirs of Hussain Sagar and Mir Alam tanks into large parks. The tanks of Mir Jumla, Afzal Sagar and Ma Sahiba, were to be drained and converted into parks. This exercise would bring large tracts of the city's environs in use as green areas. The combined area to be demarcated as parks was approximately five square miles. As these projected parks would be on the outskirts of the city and thereby not within easy access of the general populace, it was also proposed to create small parks and open spaces within the city itself.

The plan to create such large green tracts on the outskirts of the city was a direct adaptation of Qutub Shahi planning being inspired no doubt by the historic

Ibrahim Bagh, Bagh Lingampally and other similar gardens. Qutub Shahi culture had always encouraged congregations and celebrations in open spaces. This tradition was continued during Asaf Jahi times as is evident by immense popularity of the 'Tad Band ka Mela' an annual event where the nobility rubbed shoulders with the general populace. The CIB scheme for the Bagh-e-Safa area, referred to as the Bagh-e-Safa Scheme in the historic Bagh Lingampally area is indicative of the sensitivity towards planning around existing gardens and open spaces. The preference for the use of gardens as a setting for public interactions of royalty continued till the very end of the Asaf Jahi rule. It was therefore inevitable that the Bagh-e-Aam (Public Gardens) became the chosen venue for Nizam VII on the occasion of his Silver Jubilee Celebrations in 1937.

In the planning and construction of new buildings, the CIB laid due stress on the need to conserve existing parks and open spaces. The CIB schemes ensured preservation of existing gardens even at the cost of making designs and layouts of proposed buildings conforming to the site conditions. The Osmania Hospital, which came up adjacent to the Afzal Ganj Park along the river front, was approached from the east, leaving the pre existing garden separating the Osmania Hospital from the river intact. Some of the other proposals of the CIB were the creation of a three-mile long lake by damming up the river within city limits.[9] There is an island in the middle of the Musi, downstream of the Oliphant Bridge, then a tamarind grove, popularly known as the 'Imli Ban'. It was proposed to bring into existence a park on the island of Imli Ban and give access to the public by building bridges from either bank (Visvesvarayya 1930). The water body so created would have perennial availability of fresh water from the 'balancing tanks' to be constructed upstream. Another example of retaining original settings by CIB is evident in the Victoria Zenana Hospital where the original Qutub Shahi fountain and parts of the garden of Amin Bagh were used as the nucleus around which the hospital complex was planned.

POST INDEPENDENCE PLANNING

As India gained independence in 1947, Hyderabad declared itself sovereign state. With the invasion of the city by the Indian troops in September 1948, the State of Hyderabad acceded to union with India, but the action in turn brought an abrupt end to the phase of planned development of the city of Hyderabad under the CIB. The CIB was wound up and all it's on going schemes terminated. The new Order based on the needs of the immigrants provided for the future development without regard to continuity and with no respect to the social requirements of the existing population. 'Set Backs' ensured the annihilation of the courtyard, so essential to the needs of a traditional Hyderabad lifestyle. A complete break with the evolved architectural traditions of the city and a gleeful jubilation in the destruction of its architectural fabric set a trend of decay and degeneration.

Recent interventions have shown insensitivity towards the heritage significance of the historic open spaces that was dealt with in detail by the CIB. One such example is a master plan for the Osmania Hospital complex that ignored the intentional side entrance devised by the CIB and decided to divide the historic Afzal Ganj Park with an access linking up with the riverside road. The garden that is also significant for a famous tree that saved a hundred lives during the 1908 floods was bifurcated by the laying of a road to provide for a VIP entrance. The architect in charge, a senior and popular practitioner, was unaware of both the historic relevance of the park and the intentions of the original architect. The case of 'Imli Ban' is another such example. The original island was very insensitively used to accommodate a Bus Terminus of the State Road Transport Corporation. Recently though, the authorities reverted to the Visvesvarayya Master Plan recommendations by creating the 'Imli Ban Park'. Unfortunately, this belated implementation of an enlightened scheme came about when the original site had already been occupied and the action was seen as an attempt by the municipal authorities to get out of an embarrassing situation by covering a landfill formed due to the indiscriminate dumping of garbage by the corporation on the river bed over a number of years. Hence, ignorance about the intent of such features in traditional planning and their historic significance have resulted in mistaken interventions in the recent past that contradict the proposal of the CIB and grossly undermine heritage value associated with them.

CONCLUSION

The CIB schemes apart from aspiring to reaffirm Hyderabad's place as the capital of India's prime state were also an attempt at imbibing a sense of return to normalcy after trying times brought about by a succession of disasters that befell the city. The planning and architecture promoted by CIB was heralded as a new dawn and inspired the citizens to don on the role of survivors. This is evident from the vernacular

Osmania park in 1930's. Source: Mohd. Safiullah, Deccan Heritage Trust, Hyderabad

Osmania Park, 2008

rendition of the CIB as 'Aaraish e Balda', implying embellishment and beautification. The schemes of the City Improvement Board laid great stress on integration of Heritage with urban design to be achieved by meticulously preserving built heritage and ensuring architectural continuity.[10] Post 1948 administrators abandoned the CIB proposals and prevented the full implementation of Sir Visvesvaraya's master plan. Although the proposals of Visvesvarayya were not titled as such, they were in fact for all practical purposes the first master plan of the city. The Chief Architect of Hyderabad (Fayyazuddin 1944) published in 1944, the first formal master plan for the City.

Restrictions on urban land holding and the political requirements of a new state dictated the course of future planning. A general failure to put together a sustainable master plan and inordinate delays in implementation along with a biased approach against

established planning traditions ensured the failure of most of the schemes that were taken up. The end result has been chaotic; with rampant unplanned growth, crumbling infrastructure, a break in architectural continuity and large scale destruction of natural and built heritage. Bagh Lingampally, Basheer Bagh, Kundan Bagh, Ibrahim Bagh, Bagh-e-Jahan Ara, Aziz Bagh, Sabza Bagh, Jaffer Ali Bagh, Kishen Bagh, Beerban Bagh and Bagh Amberpet are just a few of the densely populated localities of the city which were private and public gardens in the past. Similarly, the numerous large wells of the city like Reti Baoli, Putli Baoli, Doodh Baoli, Moosa Baoli and Gachi Baoli are currently reduced to names of places. It is ironic that today, in a city with such a rich background of enlightened planning, the words *bagh* and *baoli* are commonly associated with residential layouts rather than with greenery and water[11].

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Notes

1. For historical background and Architecture of the Qutub Shahi period see (Sherwani 1974), (Siddiqui 1956), (Qarni 1990), (Bilgirami 1927) and (Bawa 2002).

2. Based on the author's translation of a poem 'Sailab e Dakan' by Sayeeduddin Khan, lamenting the tragedy of the 1908 floods (as narrated by Ziauddin Shakeb).

3. As evident from the account of Cyril Jones, an engineer with The Nizam's State Railway (Khalidi 1991, p. 50-51). See also, Lynton & Rajan (1988, p. 13-20), for graphic accounts of the floods, the relief work, Mahboob's dedication to his people and the early relief and rehabilitation works undertaken after the floods.

4. According to Mirza Farhatullah Baig, 'The water level in the middle of the river was well over 20-25 feet higher than at the banks.**'** (Prashad 2001, p. 236) The statement is indicative of the inability of the river to rapidly drain the areas near the City due to a check in its fall as the relatively slow moving water at this point held up the rush from upstream causing it to barrel down the middle retaining its upstream narrow profile and thereby resulting in this unique phenomenon of the central portion of flow being higher than that at the banks. Sir Visvesvarayya also takes note of this unusual occurrence commenting that 'On account of obstruction and the great rush of water, the crest of the stream at the bridges rose several feet higher than along the banks. This was an extraordinary hydraulic phenomenon.'(Lynton & Rajan 1988, p. 16)

5. For select correspondence of officials and the measures taken for protection of the Residency from recurring inundations, see Khalidi (2005, p. 15-18).

6. Letter from Peshkar (Prime Minister) to Resident, in reply to a petition of the flood victims of 1849 from the Chaderghat area forwarded for the Nizam's consideration. 'Formerly during the flood of the River Musi the houses built on its banks were washed away, but these people, knowing this, have again rebuilt them on the same place, and thus have brought loss upon themselves. As during the flood the course of the river is the same on both sides and the river comes down in such a manner in flood that wherever it takes its course that is its bed. And to prevent this is difficult, so if any one builds in its bed he will necessarily suffer loss. Therefore the only measure to adopt is to forbid the rebuilding of the fallen houses.' (Khalidi 2005, p. 16-17)

7. C Sarvottam Rao in correspondence with Dr. V.K. Bawa, e-mail dated 14.09.2008. Sir Visvesvarayya served as Chief Engineer of Hyderabad for only seven months. Having joined Hyderabad service on 15th April 1909, he submitted his first report on 1st October and left to join Mysore on 15th November 1909, first as Chief Engineer and later rising to the post of Divan (Prime Minister). He however continued as consultant for the Hyderabad CIB planning schemes and presented a review report in 1930.

8. 1913 according to Sir Nizamat Jung, 'And it was he (Nawab Fakhrul Mulk) who got me nominated to the Honorary Secretaryship of the City Improvement Board when it was formed in 1913 at the suggestion of the Resident, Sir Alexander Pinley. He was its first President and his recommendation was approved by the Cabinet Council and sanctioned by the Nizam. I served the board till 1937.' (Ahmed 1945, p. 54).

9. Marmaduke Pickthall also mentions the various schemes which were proposed and debated regarding the river front development of the Musi. His writings are also a gauge of the level of enthusiasm generated by the CIB schemes and the keen interest of the people of Hyderabad in the embellishment of their city. For further reading see Pickthall (n.d.).

10. Sir Nizamat Jung observes that 'Old cities suffer if they are denuded of their old-time glamour and inimitable grace!' (Ahmed 1945, p. 127).

11. For an exhaustive listing of place names of Hyderabad see Dharmender Prasad's articles and book.

Sustainable Solutions

Bicycle compatibility in Indian cities

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ABSTRACT

The high ownership, low cost and easy use make bicycle a desirable mode of transport for students and low income workers. A large amount of utility cycling is present in Indian cities because the bicycle is the most affordable form of transport available to low income households. The typical mixed land use, clustered, medium density and polycentric Indian urban areas seems to reduce the average trip lengths. The low car ownership coupled with low medium household incomes creates high possibilities of bicycle usage. There is significant number of short trips in Indian cities with potential to shift to bicycle, given a network of bicycle facilities and infrastructure. The potential of bicycle use; against the motorised modes can provide healthy lifestyle and cleaner environment, thus consequently increasing the overall quality of life in cities.

INTRODUCTION

Bicycle is an important commuting mode for urban poor workers and students. It is an important means of mobility for short trips and there are about 55% to 70% trips below five kilometres in medium and large Indian cities. Bicycle provides other benefits like health, no pollution and no fuel consumption. Hence, bicycle clearly is a desirable mode, which should be promoted. Urban planning and transport infrastructure

development plans have addressed the needs of car mobility. The resulting motorised growth is often used to expand the car infrastructure, ignoring Non Motorised Transport (NMT). These biased efforts result in wider discouragement of cycling coupled with social marginalisation.

NON MOTORISED VEHICLES IN INDIAN CITIES

A large amount of utility cycling is present in Indian cities because the bicycle is the most affordable form of transport available to low income households. The medium (1-3 million) and large (3-5 million) cities have a typical bicycle modal share of 13% to 21%, Nagpur being a very unique case with a large number of cyclists (34%), even more than walk trips (24%) (Tiwari & Jain 2008). The time trend analysis in various cities shows a sharp decline in cycle trip share throughout the 1980s and 1990s. During this period all these cities experienced a high growth rate of motorised vehicles, road infrastructure improvements and consequently high cycle fatalities. However, despite hostile infrastructure and policy, cycle trips have not disappeared. There is always a substantial segment of the population which is captive rider. The bicycle ownership is very high in all the cities. Most of the medium and large cities have 35% to 65% households owning one or more cycles (as per Census 2001), whereas in the smaller cities, it varies in the range of 33% to 48%. The average trip length for all vehicles excluding walk in small cities is from 2.5 to 4.8 kilometres (4.2 to 6.9 kilometres in medium and large cities). About 70% to 90% trips in small cities and 56% to 72% trips in medium and large cities are less than five kilometres. Such short trips are ideal for non motorised modes like bicycles.

It is observed that due to unsafe conditions on road, cyclists are involved in 5% to 10% of total road related fatalities in medium and large cities (except small cities where there is no data available). About 20% to 32% cyclists are involved in crashes leading to severe injuries in these cities (NCRB 2001-06). It was observed in the detailed qualitative survey of students and parents (TRIPP 2006) that 18% bicycle using students met with an accident some time or the other while cycling, mostly by motorised two wheelers and cars, sustaining injuries in one third cases. 66% of current bicycle using students don't feel safe on roads for the fear of accidents by other vehicles. Many medium and large cities in India typically have other kinds of Non Motorised Vehicles (NMVs) as well. This includes animal driven vehicles, handcarts (carrying goods), victorias (hand rickshaw), cycle rickshaws and various kinds of hawkers and vendors. There are variations in the distribution pattern, for example, Pune does not have cycle-rickshaws, while a city like Nagpur has about two thirds of the total NMVs as cycle rickshaw.

STATUS OF BICYCLE POLICY

Tenth Five Year Plan (2003-07) of India emphasises the issue of road safety, energy savings and planning, because transport is the second largest consumer of energy (GoI 2005). The other national and city level policy documents are being made within the framework

Modal share in medium and large cities

Legend:
- Walk
- Bus
- Cycle
- Auto / Para Transit
- M2W
- M4W

M2W 20-28%
M4W 3% - 6%
Walk 27% -38%
Auto / Para Transit 5% - 12%
Cycle 13%-21%
Bus 8% -14%
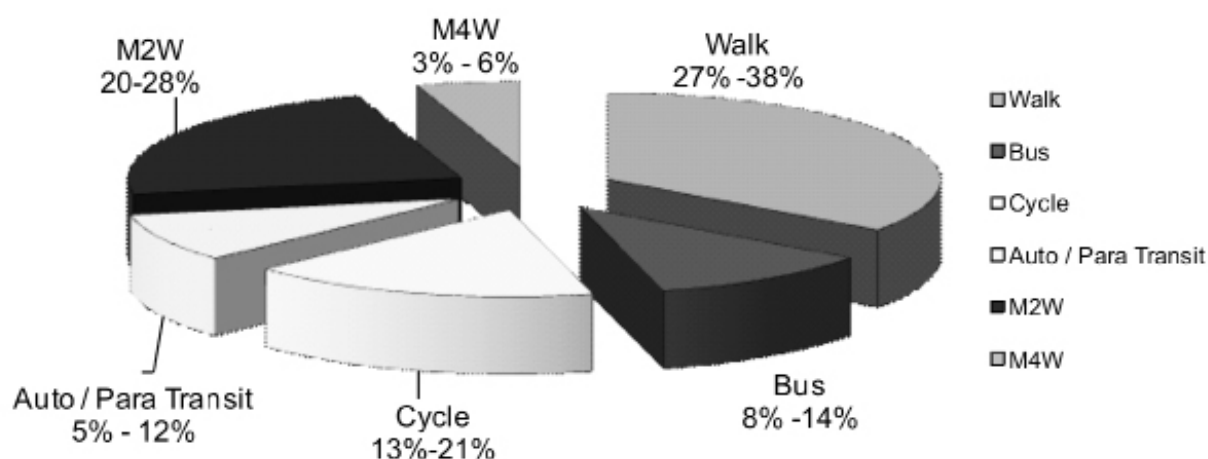
Approximate modal share in medium and large cities in India, Source: Tiwari & Jain 2008

BRT concept and segregated cycle track Source: TRIPP, IIT Delhi

provided by this broad national policy document. The National Urban Transport Policy (NUTP 2005) acknowledges the fact that there are certain sections of society, especially the non motorised commuter groups which face problems of mobility. 'The cost of travel, especially for the poor, has increased considerably. This is largely because the use of cheaper non motorised modes like cycling and walking has become extremely risky, since these modes have to share the same right of way as motorised modes. Further, with population growth, cities have tended to expand in size and increased travel distances have made non motorised modes difficult to use. This has made access to livelihoods, particularly for the poor, far more difficult...' According to NUTP (2005) this target of equity can be achieved by reserving corridors and lanes exclusively for public transport and non motorised modes of travel. The Central Government decided to give priority to the construction of cycle tracks and pedestrian paths, under the Jawaharlal Nehru National Urban Renewal Mission[1] (JNNURM), to enhance safety and thereby enhance use of non motorised modes.

This policy ensures the support of the central government in the formulation and implementation of specific 'Area Plans' in congested urban areas with an appropriate mix of various modes of transport including exclusive zones for non motorised transit. Also, the central government partially finances pilot projects which demonstrate improvements through the enhanced use of bicycling, for possible replication in other cities. (NUTP 2005).

The city level policy documents do not, however, incorporate such NMV friendly policies. For example, Tackling Urban Transport Operating Plan for Delhi (Transport department under the NCT Delhi government) does not give due importance to cyclists, NMT and pedestrians. It only seems to give left over space to NMT instead of integrating it as an essential component in the system as a whole. The budgetary outlay for transport in the Delhi government plans has been increasing over the years. However, the fund allocation towards pedestrian, cycle and NMT improvement is a mere 0.6% of the total Annual Budget Outlay 2006-07 (NCTD, 2006). Though the various city policy documents often mention the Bus Rapid Transit on select corridors, they fail to consider the physical segregation of slow moving vehicles, which is a precondition for a successful BRT corridor. Also wider sub arterial or collector roads lead to increase in speeds, in turn jeopardising the cyclists' safety. Hence, it is not the volume of cyclists (as directed by IRC: 86

-1983) but the speed differential between motorised vehicles and cycle, that should guide the physical segregation.

To explore the possibilities of planning and implementing cycle tracks, some cities have come up with ad hoc working group of four to eight people (representatives and experts from municipality, Municipal Corporation, public works department, development authority, technical academic body of region and civil society organisations). This working group is called the Cycle Cell or NMT Cell or Cycling Engineering Cell and is responsible for furnishing all the bicycle related recommendations. Municipal Corporation of Delhi (2004) and Pune (2008) have established a bicycle cell. However, due to unclear mandate and very small budgetary support, the bicycle cell has not been very successful in creating bicycle infrastructure in the city.

SOCIO ECONOMIC PROFILE OF BICYCLE USERS

In medium and large cities in India, 17% to 30% of the households have monthly income less than Rupees 5,000 (Census 2001). Average monthly expenditure on transport has been estimated to be 12% to 15% of the total income, that is, Rupees 750 per month for all

Legend
- School
- railway line
- NCTD Boundary
- yamuna watercourse
- IGI airport
- forests and
- Buffer School

0   3   6   12   18   24
Kilometers

Secondary and Sr. Secondary schools and their estimated catchment area. Source: BMP, Delhi 2007

members. Therefore, for these households motorised public transport system is not an attractive option (TRIPP 2005b). It has been observed that in developing world cities, cycle rider ship decreases with increasing levels of literacy and income. Amongst the informal sector workers, work place and its type are the biggest determinants of the rider ship. Almost all the people whose work involved distribution activities (painters, plumbers, electricians, gardeners, courier deliverers, postmen, milkmen and newspapermen) use bicycles; above 80% of factory cum shop workers and 73% of office workers use bicycles (TRIPP 2006).

As they are poor with restricted household incomes, they trade off values of various essential goods, including the travel costs. Since the highly subsidised public transport facility also remains cost prohibitive to them, they try to live or squat closer to their work place (Mahadevia 2008). This self location of household along with the typical Indian mixed land use (generated by informal commercial services), medium density and poly-nucleated city structures, results in short commute distance. Such characteristics also favour the choice of non motorised modes like walk and bicycle. Interestingly, each high income house is also a trip attractor (job opportunity) for bicycle users. It is estimated that there are at least six to eight full time or part time low waged chores for the rich household. This includes milkman, newspaperman, gardener, ironman, cleaning lady, washing lady, cook, car washer, baby sitter and others. Hence, the concept of building bicycle friendly corridors only on selected routes does not meet the network requirement of bicyclists. 36% to 44% of educational trips are on cycle in various medium and small cities. The percentage is lower (25% to 30%) in larger cities (Tiwari & Jain 2008). When all the schools above primary level are plotted on a Delhi map with a catchment area of three kilometres (70% of total students, 81% of cyclist students), it covers the whole urban area (BMP Delhi 2007). This clearly illustrates that to cater to students or urban poor workers who are the major user groups, the network of cycle friendly infrastructure should cover the whole city.

BICYCLE COMPATIBILITY AND LAND USE STRUCTURE

More than all other modes, the utility of walking and cycling are dependent on the meso-scale character of neighbourhoods and the built environment. The pattern of buildings and transport infrastructure in a neighbourhood tells people how to travel, within certain broad choice parameters. Cities most dependent
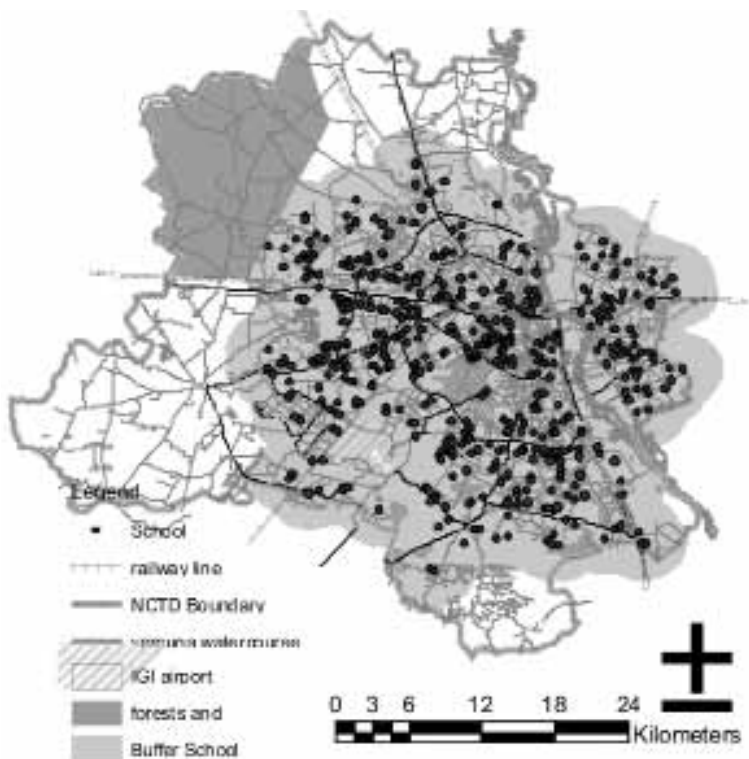
on a diverse mix of walking, cycling, and public transport tend to be compact in form and become multi-nucleated as they expand in size, with heterogeneous land use at a small scale, mixing residential, retail and often some production functions. Some of the important aspects from Indian cities are enumerated as following.

Old city

This is the oldest core structure of the city which is further divided in hundreds of *pols, kuchas or peths* (a housing cluster comprising families linked by caste, profession or religion). Each cluster is either guarded by a gate or a guardhouse over the gate with meandering streets, temples, cul-de-sacs and passages that interconnect the clusters. The market areas in the core since beginning have been serving as the hub of all kind of trades and wholesale business. Lately the focus of governments has shifted to development in form of flatted and plotted developments, thus neglecting the old city areas.

Poly nucleated city structure

Based on the disposition of the business centres (i.e., activity structure), cities are classified as mono-nuclear (mono-centric) or poly-nuclear (poly-centric). Based on the relative employment potentials of the primary business centres and secondary business centres, the city activity structure guides the average trip lengths. More the number of the city activity centres and their spatial distribution, the lesser are average trip kilometres, in turn, increasing the probability of using NMV.

Medium density

Generally speaking, the middle ring of the city that came under development during the 1980s and 1990s, comprised of three to four storeyed flats and planned plots. This has kept the average density to a medium (average density in the middle ring in Persons per Hectare) slab in the Indian context. This kind of development had still not made the public transport an essential need and has maintained the option of using NMV. The latest development in the form of private townships and or Information Technology parks has been in the form of high rise, high density developments at the outskirts of cities. This new approach in planning has further added sprawl to the city, thus increasing the need of travel by motorised modes (public or private).

Informal sector

The check or control of local economies has overruled the impractical and partial federal city planning; giving birth to informal (mostly illegal), residential and commercial development. The unorganised service providers are more in number but much less focused, thus remain invisible and uncounted for all the urban development purposes. This sector includes roughly one third of the population that lives in slums, illegal and informal colonies as squatters and pavement dwellers. These informal service providers (mostly urban poor) reside all over the city, on mostly vacant lands, unused government plots, near the drains, parallel to railway lines, on suburban periphery and extended urban villages. Access to formal house, for them, is impossible due to current land market policies (Mahadevia 2008). They exist in close proximity to formally planned areas due to interdependence. Since urban planning does not incorporate poor people of the city, their basic right to safe mobility and access to better livelihood opportunities, they have devised their survival by reducing travel distances (squatting near the work place) and walking or bicycling to work.

Mixed land use

The mixed land use though often debated on the pretext of congestion and chaos among the Indian urban planners has nonetheless inherent benefits. Research in American and European context since 1990's has shown that neighbourhoods with heterogeneous land use at building level or at block level along with higher density, can define the mode choice (walk or bike, public transport, personal motorised vehicles) in broad aspects. The mixing of land use has already occurred in Indian cities, due to demand and supply aspects of services and goods in the market and the failed policy and planning on behalf of the government. This shall be utilised by promoting and planning for NMV and integrating them into the urban and transport planning.

Diversity, Distance and Density

The land use structure in Indian cities is such that it provides all the basic principal dimensions of 'density, diversity, and design' (Cevero & Kockelman 1997) required to support the non motorised travel. 'Destinations, distance and density along with route' variables (3D+R) (Lee & Moudon 2006), if considered in the context of Indian cities, may also generate favourable results, further adding potential to bicycle trips.

Interface with Urban Planning

Bicycle compatibility of a road or corridor is based on the parameters like directness, coherence, safety, comfort and attractiveness (CROW 2007). This is where the interface with planning sector plays a prominent role. Smaller blocks resulting in finer mesh of local roads, along with smaller housing or lesser use of cul-de-sac kind of planning leads to more direct and coherent network for cyclists. Alternatively, the traffic calming can be incorporated in urban design in form such as organic patterns of circulation, raised platform crossings for pedestrians and cyclists and less wide roads. The segregated land use planning also refers to longer trip distances for most of the destinations. This not only increases the average number of trips, but also reduces the probability of traveling by cycle. On the other hand, large housing developments (small townships, IT parks) on the outskirts of the city, with large facilities like malls have further increased the trip distances and need of travel. Furthermore, the high rise and high density developments favour public transit services instead of the non motorised modes. Interestingly, the train and bicycle are complementary systems that together operate within a comprehensive distance range. After the range of 5-10 kilometre trip length, bicycle emerges as feeder mode in multi modal trips with buses, metro or tram (Bouwman & Moll 2002).

Socioeconomic dimensions

Litman (1995) observes that sprawl is particularly burdensome to lower income households and non drivers. Land use patterns affect walking and biking, thus affecting public safety and health (Frank et al. 1996). Although increased density tends to increase crash rates per vehicle mile, it tends to reduce per capita vehicle travel and traffic speeds, which reduces crash severity and per capita traffic fatalities. Obesity epidemic, a sedentary lifestyle also increases the risk of chronic diseases, such as diabetes, cardiovascular disease, osteoporosis and cancer. Research by Khattak and Rodriguez (2003) indicates that residents of more urban, NMT communities are more likely to achieve recommended levels of physical activity. Community cohesion (refers to the quality of relationships among people in a community) and social inclusion of people (who are physically, economically and socially disadvantaged) increases in NMT based community which is both an efficiency and equity issue (Litman 1995).

Delhi BRT corridor and cycle infrastructure. Source: TRIPP, IIT Delhi

BRT concept. Source: TRIPP, IIT Delhi

THREATS AND OPPORTUNITIES

Bicycle users make journeys between the same kinds of places for the same purposes as users of other modes of transport. For all transport modes, the most direct, feasible routes between housing areas, shops, work places, schools and places of leisure activities are usually served by existing roads. It has been observed that the layout of all purpose roads combined with the quantity, size, speed and complexity of maneuver of motorised traffic can have a huge impact on the convenience and safety of cycle users. It is recommended that cyclists need to be able to proceed to their destination with minimum efforts, inconvenience and danger (BMP 1998). Large investments in road widening and construction of flyovers have increased inconvenience for bicyclists and made their journeys more unsafe. This increased risk of crashes is partly due to high speed and partly due to increase in car ownership. However, increased congestion on roads at some locations has lowered the speed (below 20-25

Segregated bicycle track on bridge over Yamuna. Source: TRIPP, IIT Delhi

kmph) and consequently the bicycle related crashes and fatalities.

On the other hand, few projects have made their mark towards a more integral and equitable road space planning. Segregated bus lanes as part of the Bus Rapid Transit Systems (BRTS) under the JNNURM with central government aid, are already under construction in many cities to meet the increasing travel demand and to improve the public transport service. As a matter of fact, the presence of bicycle lanes is a necessary precondition for establishing such bus lanes (curb side or central/median side) (BMP 2007). In Delhi, 14.6 kilometres long corridor is under construction with segregated bicycle lanes and bus lanes. 5.8 kilometres have been completed and are operational since May 2008. This corridor has excellent details at T junctions and intersections for controlling traffic speeds and ensuring the safety of bicyclists. International standards have been followed for signage and safety. 99% of the bicyclists on this corridor are using the bicycle tracks.

CONCLUSION

Today, with the threat of climate change, bicycles present the most sustainable form of transport. It has been continually proven to be an eco friendly mode and the need to promote it has been emphasised. Also, bicycle is the fastest mode in the first three kilometres and has often been recommended as a solution to congestion, pollution, crashes and physical inactivity.

But, the basic pre condition for promoting bicycle as commuting mode in any communtity is the presence of short cyclable trips (less than five to eight kilometres). The abundance of short trips in the Indian medium and large cities provide immense possibilities for promoting this eco friendly mode. It can prove to be a competition to other personal motorised modes for its high ownership, easy to ride, suitablity for all age groups and non requirement of any registeration.

One of the reasons for small share of bicycle trips in large cities is the presence of hostile conditions for cyclists. It is observed that each mile of bikeway per 100,000 residents increases bicycle commuting 0.075 percent, all else being equal (Nelson & Allen 1997). If safe infrastructure is provided for bicycles in Indian cities, it may be possible to attract the latent demand in community for bicycle trips in addition to the existing trips by captive users. The close vicinity of academic institutions (mostly three to four kilometres), easy rider ship, no license requirement and no fuel requirement are factors that make it an attractive mode of travel for students. Parking facilities, social security and ease of travelling are some of the important factors which seem to govern female bicycle rider ship. As the household income grows and economical conditions improve, bicycle riders upgrade themselves to automobiles. The real challenge lies in arresting these declining trends. The typical mixed land use, clustered, medium density and polycentric Indian urban areas seems to reduce the average trip length. The low car ownership coupled with low and medium household incomes create high possibilities of bicycle usage. Nevertheless, more scientific research is needed to establish the inter relation of bicycle use and existing land use, especially in south Asian cities.

Bicycles should become a form of urban travel integral and more suitably, indispensable part of policy formulation. It is extremely important, that bicycle travel be considered early on, in the design of transportation or city development projects in Indian cities. Otherwise, the opportunities to facilitate bicycle use are often lost ahead of time in the design process. Indian cities truly reflect the large potential for bicycle use, given a reasonable network of bicycle facilities and infrastructure. Experts suggest strong advocacy, network of bicycle infrastructure and improved attractiveness by reversing its social status as eco friendly and trendy mode instead of poor man's vehicle.

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Notes

[1] The aim is to encourage reforms and fast track planned development of identified cities. Focus is to be on efficiency in urban infrastructure and service delivery mechanisms, community participation, and accountability of ULBs/ Parastatal agencies towards citizens. The main thrust of the Sub-Mission will be on infrastructure projects relating to water supply and sanitation, sewerage, solid waste management, road network, urban transport and redevelopment of old city areas (time frame 2006-2013). Assistance under JNNURM is additional central assistance, which would be provided as grant to the implementing agencies for select 63 cities.

A resource based tourism development
Havelock and Neil Islands

ANSHU MESHACK

ABSTRACT

Tourism is being heralded as the most promising sector to develop the Andaman Islands, an exquisitely beautiful archipelago in the Bay of Bengal. Aggressive strategies designed by the State and private players have resulted in the islands going up the popularity ratings as a favoured tourist destination by domestic and international visitors alike. Scant regard, however, is being paid to the impact this has on the people who know the islands as home. The present article traces the changes experienced by residents on two popular tourist destinations in South Andaman, Havelock and Neil Islands. The unique natural and cultural heritage of the islands, nowhere else to be found, is at risk of being irrevocably destroyed if immediate steps are not taken to stem the tide. A high degree of sensitivity and responsibility among the residents and tourists is needed if the ecological and cultural wealth of the islands and their people are to be sustained. Tourism, while a welcome source of economic development, must involve the residents to a greater extent so that the adverse impacts of tourism are minimised. A greater sense of pride among the island communities in their unparalleled ecological wealth, as well as in the unusual blend of cultures, is an imperative first step in this direction.

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INTRODUCTION

The Andaman and Nicobar Islands, 12 hundred kilometres from the Indian mainland in the Indian Ocean, are a group of 572 islands of volcanic origin, formed by a submarine mountain range that stretches from Myanmar in the north to Indonesia in the south. Havelock Island, covering an area of about 92 square kilometres, is the largest of the islands which comprise Ritchie's Archipelago, a chain of eastern islands in South Andaman District. It is 57 kilometres north east of the capital, Port Blair. It is ranked high among the few locations encouraged by the administration of the Islands for development of tourism, with an asserted focus on promoting eco-tourism. In addition to its breathtaking beaches, Havelock is also known for its rich and indigenous marine life, especially the corals. Neil Island, about 40 kilometres northeast of Port Blair, is a smaller and relatively less known tourist destination. Also predominantly inhabited by Bengali settlers, the main livelihood options for the people are agriculture and fishing. The little island has the distinction of being the main supplier of vegetables to the other islands in the surrounding area, including Port Blair.

ANDAMAN AND NICOBAR ISLANDS

The Andaman and Nicobar Islands are located between the latitudes 6° to 14° North and longitudes 92° to 94° East. These island groups are an internationally acknowledged hot spot for biodiversity. The evergreen and semi evergreen tropical rain forests, which constitute the richest bio-diversity pools in the world, are also very fragile. Several indigenous species of flora, fauna and marine life, place the islands high on the list of Marine Protected Areas in the country, with many significant Parks established on these islands alone. It is no wonder that 90 sanctuaries spread over 466.22 square kilometres, and nine National Parks spread over 1153.94 square kilometres have been notified on these islands.

Only 36 islands are inhabited and are home to a startlingly diverse group of communities. Some are indigenous and are believed to have been living on the islands for over 200 centuries. These comprise the six distinct tribal groups; the Onge, Sentinelese, Jarawa and Great Andamanese of Negroid descent living on the Andaman Islands and the Shopmen and Nicobarese of Mongoloid descent in the Nicobar Islands. Others, making the larger majority; are more recent residents, having settled or in the process of been settled on

different islands, in the decades following India's Independence in 1947.

Because of their location, the islands also have a strategic geopolitical significance for the country, particularly from the point of view of national security. The Andaman and Nicobar Command was, therefore, set up as the Joint Command of the Defence in 2001, bringing a significant presence of the Army, Navy, Coast Guard and the Air Force to the islands. In addition, the islands also constitute 200 nautical miles of Exclusive Economic Zone (EEZ) all around the land mass. Keeping in mind the strategic significance of the remote island groups, commercial investments were encouraged through huge subsidies and incentives offered to industries. The result was the mushrooming of several settlements comprising Indian populations from different parts of the country, as well as refugees from Sri Lanka and the erstwhile Burma.

Felling of indigenous forests was carried out in a big way to make room for an ever-expanding island population within a severely limited landmass. People came from different states; Andhra Pradesh, Bengal (West Bengal and East Pakistan, currently Bangladesh), Bihar, Kerala and Tamil Nadu. Cutting across regional languages, Hindi emerged as the common language by convenience. The culturally distinct groups toiled together to eke out a living as labourers, plantation workers, petty traders or as employees of the state departments. A considerable proportion of the settled population comprised of refugees from East Pakistan. A five-year colonisation scheme saw the islands in North, Middle and South Andaman being populated in a gradual but steady manner after 1947.

SOCIO-ECONOMIC FABRIC

Of the islands in North, Middle and South Andaman, Havelock and Neil Islands are predominantly inhabited by several generations of Bengali settlers who have intermingled with other regional communities to create a unique blend of cultures while still maintaining their own customs, traditions and religious practices. A few families from Andhra Pradesh, Tamil Nadu and present-day Jharkhand make up the rest of the islands' multi-cultural harmonious population.

On both islands, modest numbers of households make up the few village settlements and the houses are constructed around cultivable lands. Despite large tracts of land being utilised for cultivation, agricultural yield is low and often inadequate to meet the needs

of the households. To increase the sources of income, communities diversify into other commercial activities. For instance, on Neil Island, vegetable cultivation on a tiny plot of land in front of each house is a source of substantial income and a primary source of fruits and vegetables for the highly populated Port Blair. Similar small vegetable gardens are utilised essentially for local consumption in Havelock. Other commercial activities include fishing, animal husbandry, small trade and business and tourism related activities like plying boats inter-island to carry provisions, construction materials, diesel and petrol and arranging for tourist tours. With the passage of time, unemployed youth have formed self help groups and co-operative societies. They are involved in copra farming, construction work and supplying cooked midday meals to education institutions. Presently three restaurants are run by Self Help Groups formed by women. As in many other parts of rural India, disputes are settled by the Panchayat and the society is patriarchal in all aspects of social life. The culturally rich communities have diverse interests that bring people together, in the fields of art, music, handicrafts and sports. The artistic creation of idols, cane and bamboo handicrafts and furniture, embroidery and weaving fishing nets, all reflect the creative skills of the communities.

ADVENT OF TOURISM

For many decades after the uprooting and resettlement of the Bengali communities on the islands, the traditional norms of Bengali culture were followed with a few changes, explained by the exposure to other regional communities and altered lifestyles that the younger generations were exposed to. Mass media brought information and aspirations for a different life. Agriculture, cultural practices and traditional values no longer attracted the youth, initiating a search for other options and greater, easier returns from commercial activity. Tourism filled this gap with apparent ease. The pristine beaches and relative seclusion beckoned the international tourist in search of laidback holidays in exotic locales. The decision of the Indian Government to permit public sector employees to travel to the Islands by availing their Leave Travel Concession saw a sharp rise in high volume, low value domestic tourists.

Port Blair, the capital city saw a rise in resident population, brought on by migrants from other islands as well as from the mainland, in search for better opportunities. The limited infrastructure and travel facilities gradually made the large island unpopular

Bengali family residing in Neil Island with a Charkha member

with tourists. The chase for better, more picturesque locations brought Havelock and Neil into the limelight, placing these two islands squarely on the international visitor's map as highly recommended for overnight stay. This was matched by a greater thrust by the State Tourism Department to promote these islands as dream destinations for their impeccable beaches and exquisite natural beauty.

IMPACT OF TOURISM

Primary research

A research study was recently conducted on the status and impacts of tourism in the Andaman Islands by six organisations; Action Aid, Equations, Indian National Trust for Art and Cultural Heritage (INTACH), Kalpavriksh, Society for Andaman and Nicobar Ecology (SANE), an NGO based in Port Blair and Tata Institute of Social Sciences (TISS), Mumbai, highlighting the negative impacts of tourism that are already becoming visible on the Islands. Positioned within the existing vulnerabilities experienced by the island communities of being a 'transplanted' and 'settled' people, the study involved extended interactions with locals on many islands of tourist importance, including Havelock and Neil Islands.

The study found several issues that typify situations that lead to resentment against tourism and tourists in general:

- It is the increase in prices of essential commodities like fish, fruit and vegetables in Havelock, attributed by local communities to the rise in tourist demand for these goods. Often, these commodities are not available even at higher prices as entire boat loads of fish are booked by hotels and restaurants beforehand.
- The other issue is the conflict related to the availability of boats and boat tickets, particularly during the peak tourist season. In the absence of adequate travel facilities and infrastructure, local travel agents sell tickets to tourists in the black market, leaving local residents stranded. Medical and other emergencies can give rise to potentially volatile situations if not handled sensitively.
- In addition, the inadequate infrastructure results in short supply of fresh water, power, fuel, and other essential goods when there is increased pressure on the limited resources of the islands.

Ecological impact

As large numbers of visitors exerted pressure on the limited resources and modest infrastructure of the islands, the ecological wealth of the fragile islands began to show signs of irreversible damage. A large number of hotels, guest houses and camping sites sprung up overnight, as local and outside parties rushed to cash in on the promising commercial opportunities. In the absence of regulations by an equally eager Tourism Department, the Coastal Regulatory Zone guidelines and other regulations to protect against a large influx of tourists on the remote islands were flouted with impunity by both Government and private players. The effect on the islands and their people has been staggering. The most visibly apparent signs have been the detrimental effect on the environment. The fragile ecosystems have borne the brunt of large numbers of visitors who are largely indifferent to their irresponsible actions of littering the tiny islands with waste and using the limited resources like fresh water with indiscretion. The local government officials have been ineffective in creating mechanisms to dispose off waste like plastic objects that inevitably find their way into the sea. The increasing thrust on tourism has not yet found a match in increasing emphasis on how to handle the welcome arrival of visitors during the annual tourist season. The infrastructure to handle increased number of tourists is yet to be developed.

Sociocultural impact

The introduction of tourism brought a wave of change that saw unprecedented manifestations within the social

Havelock's beaches are very popular with foreign tourists for their pristine beauty and relative seclusion

Popular beach on Neil Island

and cultural lives of the resident communities. Given that these communities live in relatively remote areas on the islands and have little contact with people outside the islands, the dynamics unleashed by the sudden and successful tourism led impetus has created newer pressures for the isolated communities. Their ability to connect with the visitors, culturally or socially, has led to impacts that are more subtle with fewer evident signs of change. Nevertheless, these changes within the resident communities, if not managed sensitively at this stage, can cause irreversible changes and impact the peaceful coexistence of diverse cultures on the islands that have been an example of cultural harmony for decades. Referred to as the social and cultural impacts of tourism, these highlight the subtle ways in which tourism brings changes in individual behavior, lifestyles, social relationships, value systems, traditional practices and community organisation. These are the effects on host communities through their direct and indirect associations with tourists and the tourism sector at large.

Considering the diversity of cultures that interact when tourists visit different geographic locations, clashes can take place between host communities and visiting groups due to differences in values, lifestyles, languages and levels of prosperity. The attitude of local residents towards tourism development may unfold through the stages of euphoria, where visitors are very welcome, through apathy, irritation and potentially antagonism when anti tourist attitudes begin to grow among local people. For instance, out of ignorance or carelessness, tourists often fail to respect local customs and moral values. Havelock and Neil Islands have pristine, secluded beaches that draw foreign tourists in large numbers. The elders among the local communities, however, have repeatedly raised objections against the tendency of these tourists to be scantily dressed and behave in a manner inappropriate to the conservative Bengali sentiment.

This is further compounded by the demonstration effect of tourism, where residents adopt tourist behaviour, leading to a change in the lifestyle of youth in the islands. The elders fear that the youth are being swayed by the exposure to foreign cultures that influence them deeply, raising their aspirations for a similar lifestyle and leaving them disillusioned with the cultural heritage of their communities. Eager to get a share of the tourism pie, youth are taking up jobs at increasingly

young ages as tour operators, guides, taxi drivers and hiring boats, swimming equipment. They earn good revenues with relatively little time and effort, a sharp contrast to their elders toiling the land. The younger generation is more inclined towards leasing and selling their land to private parties, which they convert to commercial properties catering to the tourism trade.

The relative incidence of taking drugs is also reportedly rising on the Andamans due to increase in demand from tourists. This dangerous trend often finds takers among the youth of the host communities as well, even as they earn easy money from drug peddling. Many instances of ganja cultivation and sale have been reported from Havelock Island. The social fabric of the communities has been adversely affected by the influx of easy money in a relatively short duration. Many joint family households now live as nuclear families after the division of property and related disputes. The direct impact of tourism on women and children is a socially taboo matter and few are willing to discuss it openly. However, anecdotal data suggests that commercial sex work is on the rise.

While economic prosperity has improved the material lives of many families, lean seasons affect them adversely with equal intensity. A flamboyant lifestyle, coupled with absence of adequate savings, leaves the families with little means to ride the downturn, forcing many to take up jobs as casual labour on their own ancestral lands. Since many young people have dropped out of schools to take up well paying chores as guides and drivers, they are ill equipped to find other means of livelihood.

A considerable proportion of the large players in the tourism sector on the islands are outsiders, causing a sense of exclusion and alienation over planning and development concerns. Some locals feel a loss of control over the community's future as 'outsiders' take over establishments and new development. The limited participation of the island communities in decisions regarding the development of the islands further compounds the problem.

DIRECTION FOR SUSTAINABLE TOURISM GROWTH

Panchayat members in Neil Island are aware of the deterioration in the communities' social fabric as a result of rapid growth in tourism in Havelock. They are determined to ensure that the same is not repeated on Neil Island and are seeking ways to regulate the growth of tourism on the island in ways that are sustainable and beneficial to the resident communities. Directing tourism growth toward local needs, interests and limits can greatly enhance tourism's value to the community and help create a sustainable industry. Most foreign tourists like to engage with the local communities and gain an insight into their cultural richness as it makes their travel more meaningful. This interest from low volume, high value tourism can be encouraged to build a quality of sustainability into the tourism sector where communities themselves regulate the growth of the sector. This would be in keeping with the capacity of the island's limited resources and the ability of the people to host the visitors without adversely affecting their own lives.

Understanding that the growth of tourism as a vehicle of economic development can have complex implications for the residents, community leaders, business representatives and State officials must work together to carefully plan for its growth and development in keeping with the need to protect the natural and cultural heritage of the islands. As each stakeholder group is differently impacted by the rise or fall in tourist traffic, common areas of interest must be sought as there are likely to be more takers to find common solutions to these regular concerns. For instance, conserving the natural heritage is of interest to rural communities dependent on natural resources for their livelihood, as well as for tourist operators, as the natural heritage forms the very core of the attractiveness of the islands for tourists.

Taking this a step further, tourism can help raise awareness of the financial value of the natural and cultural heritage of the islands. It can generate pride and responsibility among the local communities towards their conservation. Sustainable island tourism can stimulate long term development of the islands through employment creation, income redistribution and poverty alleviation.

Education and knowledge combined with indigenous wisdom and intelligence can lead to the empowerment of local communities (Stiglitz 1998). Van Balkom (2002) suggested that dynamic sustainable development can only be achieved with local participation, their training in international best practices and then adaptation of these practices to local standards. Capacity building thus plays a critical role in strengthening a sense of responsibility among the island communities to protect their heritage for sustainable development in the coming decades.

CONCLUSION

Responsible ecotourism, as advocated by the International Ecotourism Society, defines ecotourism as 'responsible travel to natural areas that conserves the environment and improves the well-being of local people.' A walk through the rainforest is not ecotourism unless that particular walk somehow benefits that environment and the people who live there. The Oslo Statement on Ecotourism (2007) recommended well managed ecotourism as a key economic force for the conservation of tangible and intangible natural and cultural heritage. Ecotourism depends on fine landscapes, abundant wildlife and richly diverse culture. Therefore, ecotourism development and the revenues it can bring should be seen as a strong ally and tool for the respect and conservation of natural and cultural heritage. Similarly, a key element to the success of eco-cultural tourism is local control in the planning, development and maintenance of tourist locations. Eco-cultural tourism reflects present day practice, but also acts as a model for how cultural and ecotourism could be employed by local people to build an empowered, sustainable future in their island homes. The Kerala Declaration on Responsible Tourism in Destinations (2008) put forth a call for action to all the stakeholders in tourism. It highlighted the role of tourism as only one of the activities which needs to be managed in order to ensure sustainable communities and located tourism as taking place within communities, in natural and cultural heritage sites and environments where people live and work. The adverse economic, environmental and social impacts therefore need to be minimised while simultaneously strengthening local pride and confidence among the resident communities. Tourism cannot be developed as an independent economic activity without integrating it within the broader development paradigm of the islands. It must take into account the socio-cultural, economic and historical factors that make up the context of the island communities. This sensitivity is integral to the growth and sustainable development of tourism as a means of economic empowerment as well as intellectual and cultural growth of the people of the islands.

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Book Review

The Holy Ganga by Kaushal Kishore

MEETA KHILNANI

The Holy Ganga by*Kaushal Kishore,*
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The book is an attempt to reflect on the multi-dimensional being of Ma Ganga (the holy Ganges river, worshipped as mother in Indian culture), with its physical, spiritual, historical, mythological and cultural shades. Besides, scientific, geological, environmental, social and economical data has been used to understand the significance of the river and the Gangetic valley through time.

The author's deep connection with the river and his version of 'King Bhagirathi in white clothes with glowing creamy skin and sparkle of peace and divine bliss on his face and great amount of waters dancing and shining like lightening as the river follow its course' takes one to higher consciousness. There is an elaboration of its cultural associations as being pure and sacred, having a number of sacred names and being the life line of India. An extensive collection of mythological stories about the river such as it being born out of the Lotus foot of Lord Vishnu have been presented along with the enumeration of its physical beauty and energy.

The book is a live journey from Gangotri, where it begins, to Ganga Sagar, where it ends, draining itself in to the Bay of Bengal. The source of Ganga, the Gangotri glacier and its tributaries; the confluence of Alaknanda and Bhagirathi at Devprayag, have been described vividly taking one into the depths of the beauty of the valley. Brief introduction of associated rivers and tributaries such as Saraswati, Yamuna, Chambal, Ghaghra, Sharda, Ramganga, Gomti, Varuna, Assi, Sone, Kosi, Bhagmati and Gandak makes the reading very informative and interesting.

The river's contribution on economy of flourishing cities and towns at its banks is an important aspect discussed, while the numerous changes experienced by the river from ancient to modern times have also been highlighted. The holy Ganga where once sages, seers and Gods performed *'tap'* and attained enlightenment has become like a sink today, in which all waste material is dumped. Plastics and industrial waste discharged in to the river have been identified as a major threat. The menace of pollution and intervention of hydroelectric projects and the damage caused by them to the environment and the people is addressed somewhat adequately. Regarding the quality of water, parameters like dissolved oxygen, biochemical oxygen demand, pH given by the author gives a good account of the pollution status of the river. Reference and discussion of expert reports from various organisations like United Nations mentioning Ganga and its tributaries as the most polluted rivers in the world is a fact. Its water quality has deteriorated drastically. Real threats such as global warming, floods in Ganga basin, ruinous mining and disastrous dams have been addressed, that makes the reading further informative.

The remedial measures and alternative energy sources are also discussed at length. Alternative renewable energy sources like wind, solar, hydrothermal and data on their future projections and prospects forms the weighty component of the book. References like 'Pyramid power' to extract water out of atmospheric moisture are really eye opening and will fuel the motivation of the researchers in the field. In depth, astonishing information on the fact that water is a living substance and entity with detailed examples and thoughts and data thrills the reader with a feeling of increased affinity to the living water and takes one into its being.

Finally, the subject is well researched and presented by the author. The book is important and timely to understand the problems connected with Ganga in a simple and effective manner. This book makes captive

reading and opens windows of mind and spirit. Solutions to the problem of pollution and development threats are worth reading. This forms a fruitful and enlightening reading. However, the irreversible environmental damage done to the river by hydroelectric power projects between Tehri dam and Gangotri and its impact on the culture and heritage of the country needs to be elaborated and highlighted more.

Meeta Khilnani holds a doctorate in Electrical Resistivity data to interpret and assess the hydrogeology of Nagaur Region, Rajasthan. Currently she is working as Young Scientist in Scientific and Engineering Research Committee, Fast Track Proposal Scheme at Jodhpur and is the convener of an initiative 'Ganga Ahvaan' that is working towards preserving the river.

Events and Conferences

12TH INTERNATIONAL CONFERENCE ON CHEMISTRY AND THE ENVIRONMENT
Date: June 14-16, 2009
Location: Stockholm, Sweden
Event Subject(s): Environment, Sustainability & Energy
Link: http://www.chemsoc.se/sidor/KK/icce2009.htm
Organiser(s): The Swedish Chemical Society; Stockholm University
Contact : Swedish Chemical Society
Email: ulrika@chemsoc.se
The 7th International Conference on Structural Analysis of Historical Constructions

7TH INTERNATIONAL CONFERENCE ON THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT: CREATING AWARENESS TO SAVE THE PLANET
Date: July 6 - 10, 2009
Location: Havana, Cuba
The WWF says the only nation living sustainably is CUBA. Can US environmentalists learn from Cuba's struggles and successes? Can Cuban and US environmentalists work together, in this troubled environmental and economic time, for a sustainable hemisphere? Join a US delegation to this conference and find out!
The conference will include five congresses:
- Climate Change
- Protected Areas
- Ecosystems and Biodiversity Management
- Environmental Management
- Environmental Education
Contact: Pamela Montanaro
Email: pamela@barglow.com
website: www.globalexchange.org/countries/americas/cuba/sustainable/index.html
Sponsored by: Eco Cuba Exchange, a project of Global Exchange

4TH SOUTH ASIA RENEWABLE ENERGY CONFERENCE 2009
Date: July 29, 2009
Location: Hotel Le-Meridien, New Delhi
The Conference aims to provide an opportunity to raise issues, exchange information, share experiences and best practices by bringing together experts, investors and other stakeholders from South Asian nations and developed economics, for advancement and large scale deployment of renewable energy in our region. The principal purpose is to promote renewable energy enterprise development by removing barriers impeding Renewable Energy use.
Contact: The Associated Chambers of Commerce and Industry of India, 1, Community Centre, Zamrudpur, Kailash Colony, New Delhi-110 048, E-mail: energy@assocham.com
Website: www.assocham.org/4asia

11TH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SCIENCE AND TECHNOLOGY (CEST2009)
Date: September 3-5, 2009
Location: Chania, Crete Greece
CEST2009 conference maintains and upgrades the synthetic and integrated approach towards protection and upgrading of the environment, by bringing together engineers, scientists, students, managers and other professionals from different countries, involved in various aspects of environmental science and technology.
Event Subject(s): Environment, Sustainability & Energy
Organiser(s): Global Network for Environmental Science and Technology (Global NEST) and University of the Aegean
Contact: Prof T.D. Lekkas
Address: 30, Voulgaroktonou str. Athens, GR 114 72 Greece
Email: cest2009@gnest.org

SAS-2009, XIV TRIENNIAL INTERNATIONAL CONFERENCE ON SMALL-ANGLE SCATTERING
Date: September 13-18, 2009
Location: The Examination Schools, Oxford, United Kingdom
Subject: Analytical, Environment, Sustainability & Energy, Industry & Technology, Inorganic, Materials & Polymers, Physical.
Contact: Local Organising Committee, United Kingdom
Email: SAS2009@diamond.ac.uk
http://www.sas2009.org

2009 INTERNATIONAL CONFERENCE ON CHEMICAL, BIOLOGICAL & ENVIRONMENTAL ENGINEERING (CBEE 2009)
Date: October 9 - 11, 2009
Location: Singapore, Singapore
Published by Atlantis, indexed by Ei Compendex and ISI Proceeding.
Email: cbee@vip.163.com
Website: http://www.iacsit.org/cbee/index.htm
Sponsored by: King's College of London, Glamorgan University, UF, Atlantis Press

FIRST ASIAN GEOSTATISTICS CONGRESS
Date: August 10-11, 2009
Location: New Delhi, India
The Congress will feature two days of technical papers and presentations. The Congress 2009 will be attended by senior industry decision makers bringing new discoveries and innovations along with practical applications.
Contact name: Mr Suresh Tripathi, CEO
Organized by: Federation of Indian Minerals Industries--Mining and Petroleum Geostatistics India (MPGI)
Website: http://www.fimi-mpgi.com
http://www.conferencealerts.com/india.htm

Heritage Album

NARNAUL: WHERE LIONS ROAMED

Rakshanda Jalil

Haryana is primarily perceived as a land of scrub vegetation and hardy country folk. The state has Farrukhnagar, Jhajjhar, Narnaul, Panipat and Pataudi towns that are repositories of little visited yet significant historical monuments, forming a vital link in the evolution and growth of Muslim architecture through the medieval period. These demonstrate how several architectural design features were 'tried out' in the provinces and the remote outposts of the empire before introducing at Delhi, where the diverse, distant, often unrelated features were fitted onto a master template, in their entirety.

Narnaul is 75 kilometres southwest of Delhi, in Mahendragarh district. Local historians trace its history to the Mahabharata when it was known as Nar Rashtra translated as 'the land where lions roamed'. The Archaeological Survey of India excavated nearby area of Rewari, traces of painted grey ware

Details of arches of Chor Minar in Narnaul

Tomb of Ibrahim Sur

Chor Minar in Narnaul

and other shards of pottery dating to the late-Harappan period were found. In Narnaul itself, however, most monuments are from the medieval period. Given its strategic location between Delhi and the princely states of Rajputana, Narnaul has been a prized possession for ambitious chieftains through history, be they Afghan, Turk, Mughal or Rajput. It reached the zenith of its prosperity during the reign of the Mughal emperor Akbar (1556–1605 AD), when it became the district headquarter for Agra province and a mint was set up to give it greater importance. Narnaul also had its share of limelight during the uprising of the Satnamis (a religious sect which originated in this region) during Mughal emperor Aurangzeb's reign (1658-1707 AD) and later when small rulers such as Rao Tula Ram of Rewari rose in rebellion against the British and fought a bitter battle in nearby Nasibpur.

The most spectacular building in Narnaul is the tomb of Shah Quli Khan, a protégé of Akbar's regent Bairam Khan and later a general in Akbar's army. The tomb built in 1574 bears an uncanny resemblance to Qutb al-Din Muhammad Khan's tomb at Baroda built ten years later, establishing, that local, regional styles travelled out of the provinces and over a period of time created a pan-Indian style. The tomb is built atop an octagonal platform in a style reminiscent of the Lodi and Sur kings. A cylindrical octagonal structure rises sheer from the open platform and is topped by a squat dome mounted on an octagonal drum. It resembles the Sher Mandal, built by Sher Shah inside the Purana Quila in Delhi and the Hada Mahal, at the Fatehpur Sikri complex. The tomb built by Quli Khan some 25 years before his death, was used by him as part of a residential estate, a country house in the hinterland in modern parlance. It has an eye-catching combination of grey marble and blood red sandstone and the most imaginative and symmetrical use of blind arches. Several years after building his tomb, Quli Khan added a magnificent multi-

Shah Quli Khan's tomb

Shah Quli Khan's tomb

Tomb of Ibrahim Sur

storied gateway, known locally as Tripolia Gate that has stunning red and white paintwork on its interiors.

After the tomb, Quli Khan built a huge pleasure resort in the classical Iranian style of situating buildings inside or at the edge of water tanks. Known locally as Jal Mahal or water palace, Quli Khan had named his pleasure resort Aram-e-Kausar after the fabled pool in paradise whose waters are said to grant immortality. It exhibits a medley of styles, each somehow harmoniously blending in unexpected and altogether pleasing ways. An arched causeway leads to a flat-roofed pleasure pavilion, distinctly reminiscent of the Diwan-i-Khas in Fatehpur Sikri, sitting in the centre of a water body.

The typical Rajasthani-styled *chhatris* are in no ways at odds with the Indo-Persian style of the building. Paradisal imagery, a characteristic feature of many Mughal buildings, is mentioned in the inscription that dates the tank and the pavilion to the year 1593. It also mentions Shah Quli Khan's valour in defeating the local chieftain Hemu, thus strengthening Mughal rule in this provincial outpost.

The town's *piece de resistance*, the monumental tomb built by the Afghan ruler Sher Shah Sur for his grandfather, Ibrahim Sur, represents the same imaginative use of imperial designs and small local innovations makes this tomb strikingly different from

other buildings associated with Sher Shah Suri's short but architecturally active reign. Born in Narnaul, Sher Shah chose to build this grand mausoleum over his grandfather's modest grave in 1542, 50 years after his grandfather's death. In so doing he not only brought belated glory to his horse-trading grandfather but laid down a prototype for grand, monumental tombs. At first glance the tomb's façade reveals a plethora of styles and a bewildering variety of ornamental details. There is, first of all, the striking use of pink and grey marble offset with judicious use of red sandstone. Built to inspire awe, its interior is as wondrously decorated as its exterior. The west-facing *qibla* wall has three *mihrab*s or niches, each decorated differently. This profusion and

variation makes one stop and stare, unable to take in all the details at one glance.

Like much of rural Punjab, Narnaul has produced several *sufi* saints, the most venerable being the 13th century *pir*, Shaikh Muhammad Turk Narnauli. Later, in Akbar's time, there was the Chishti Shaikh Nizam al-Din whose fame as a man of learning has been recorded in the 'Ain-e-Akbari'. The Shaikh died in 1589 and was buried in a square stucco-covered tomb built in the severe no-frills Lodi style. Once a popular pilgrimage site, Shaikh Narnauli's tomb is somewhat overshadowed by the enormous mausoleum of Ibrahim Sur in its immediate neighbourhood. Sadly dilapidated
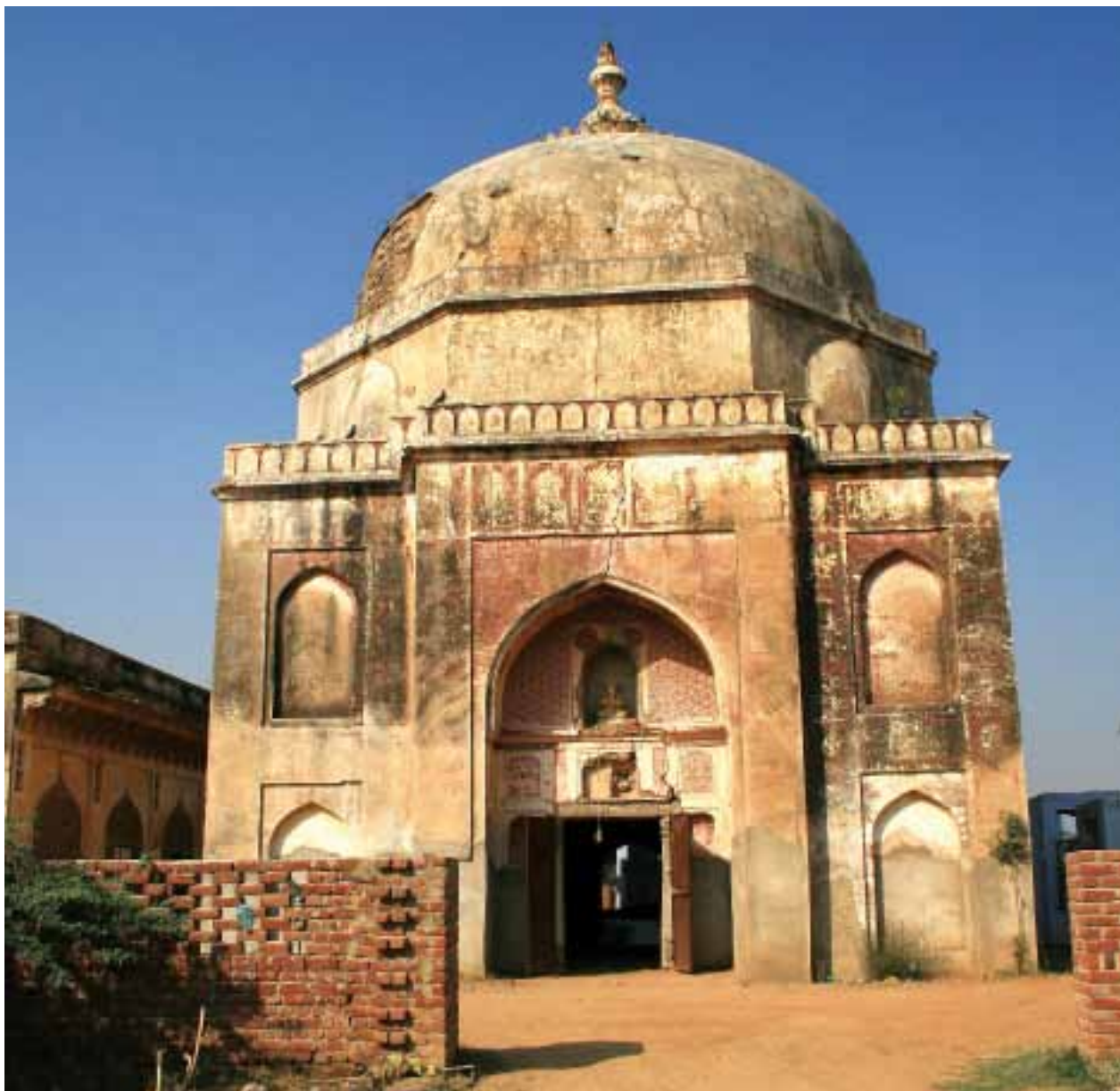
Tomb of Shaikh Narnauli

and forlorn, it has some of the most spectacular polychrome arabesques and bands of Quranic inscriptions in its *hujras* or meditation chambers. Such was the devotion to the Shaikh's memory, that one Niamat Khan built a single-aisled, triple-bay mosque facing the tomb.

At the northern edge of the city, actually the first monument; situated on the road from Delhi, is the Chor Minar. Built atop a rocky outcrop, it stands out from the surrounding clutter of suburban houses. During the reign of Feroz Tughlaq; an Afghan noble, Jamal Khan built a tomb for himself. Later it became a hideout for robbers and thieves, thus acquiring its unusual moniker. A handsome square building with a large chamber within and four minarets outside at each corner, the Chor Minar makes a spectacular silhouette.

Hence, while the Great Mughals were leaving their mark, architecturally and administratively on the bigger cities of Delhi, Lahore and Agra, it was the lesser nobility, the chieftains, *jagirdars*, *mansabdars* and soldiers of fortune that were busy

Close ups of the main entrance to the tomb of Shaikh Narnauli showing structural cracks

Artwork in the main entrance

*What was once
the garden
around the tomb
of Quli Khan*

transforming the provinces. Their legacy, found dotted about in little-known towns such as Narnaul deserve to be revisited not merely because what they have left is visually pleasing to the eye but equally significantly it shows the coming together of diverse styles of the rulers and the fringe nobility, the imperial and the sub-imperial design. The monuments of Narnaul testify how local artisans working under imperial architects could produce buildings of quaint charm that were, often, lifted as blueprints for monuments across the length and breadth of the burgeoning Mughal Empire.

Today, the tank, pavilion and paradisal garden of Shah Quli Khan, tomb of Ibrahim Sur, the shrine and mosque dedicated to Sheikh Narnauli and the Chor Minar tomb; all lie in a state of neglect and apathy, despite a Rupees fifty million grant from the Haryana Chapter of Archaeological survey of India. One leaves Narnaul, wondering how something so out of the ordinary can lie hidden in this nondescript town and not draw attention to it.

Rakhshanda Jalil writes on history, conservation and heritage. Currently she is the Director, Media and Culture at the Jamia Millia Islamia University, New Delhi. Besides regular columns on neglected monuments; she has authored, 'Invisible City: The Hidden Monuments of Delhi'.

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