

Sustainable Approaches of the Newars in Vernacular Housing and Settlement Planning in the Historic Core of Kathmandu

Shreya Sudesh^{1,2,3,4*}

¹Department of Architecture, School of Planning and Architecture, Vijayawada, Andhra Pradesh, India

²Department of Conservation, School of Planning and Architecture, Bhopal, Madhya Pradesh, India

³Visvesvaraya Technological University (VTU), Belagavi, Karnataka, India

⁴International Council on Monuments and Sites (ICOMOS), UNESCO

Abstract: Vernacular settlements provide us an opportunity to learn how sustainable building was inherently practiced in various regions of the world. This paper looks at how rituals that are a part of the *Indra Jatra*, a community festival, reinforces the ideals of sustainable spatial planning in the vernacular settlements of the Newars who are the indigenous community belonging to the Kathmandu Valley in Nepal. The settlement-pattern and vernacular dwellings are appraised, and the current scenario is analyzed so as to derive how the ritual spaces get activated during the festival (that have been spatially planned) and whether they guide decision-making and policy planning. This is essential to determine whether these spaces face any urban pressures and to further investigate how they can be mitigated.

Keywords: *Indra Jatra*, Ritual, Cultural landscape, Heritage, Conservation

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***Corresponding Author**

Shreya Sudesh,

Email: shreya7195@gmail.com

1 Introduction

Kathmandu is the capital city of Nepal – lying on the ridge formed when, 70 million years ago, the Indian peninsula collided with the Eurasian mass – which led to the formation of the Himalayas, Shivaliks, and the Mahabharata range – subsequent movements caused formation of gorges and river waters collected to form lakes in the valley. Around 100,000 years ago, the lake dried up and gorges formed through which flow Nepal's three river systems: Kosi, Karnali, and Gandaki. Kathmandu valley was created when the vast lake that was formed surrounded by the high hills was drained by the Chobar gorge through the Bagmati River. Thus, the bedrock of the valley is made of dense impenetrable black mud (clayey sediment and Kalimati clay) and is very fertile^[1]. This civilization prospered as the main gateway on the Indo-Tibet trade route, which was possible through the knowledge, skills, and management capabilities of the societies that settled on tars (high grounds) to leave the fertile flood plains for cultivation as well as protect themselves from floods and disasters^[2].

The aim of this paper is to juxtapose the activities of rituals on ritual spaces that get activated and reinforce the ideals of sustainability as followed inherently in vernacular settlement-planning and dwelling design by the indigenous community of Newars. Primary observation and appraisal of existing vernacular dwellings will be employed to arrive at the particular spaces which act as a reflection of the traditional knowledge systems of the people.

The findings of this paper can help delineate the areas that require rejuvenation and conservation management plans so as to revive the inherent sustainability of Newari settlements. The study limits itself to the historic core of Kathmandu City, Nepal, where the festival of *Indra Jatra* manifests. Only aspects of spatial arrangement related to the ritual spaces and the vernacular dwellings of the indigenous community are taken into account.

2 Methodology

Qualitative analysis of the settlement and the ritual spaces within them through primary studies done on-site is complemented with an appraisal of existing vernacular dwellings that are done through secondary studies done on the documentation and assessments of vernacular dwellings. The ritual spaces have been mapped and their elements identified. The activity-mapping was performed real-time during the ritual activity as part of the *Indra Jatra* held during 2018 in Kathmandu City, Nepal. The analysis is used as the basis for establishing the relationship between the festival and the elements and spatial arrangement of the settlement.

3 The vernacular settlement of Kathmandu

The Kathmandu Valley is believed to have been created by a *Bodhisattva Manjusri*¹, who on divine orders to reveal the *Swayambhu*², the symbol of enlightenment, had to drain out the mystical lake of *Nagadaha* at the Chobar gorge. There is an alternate myth that believes the origin of the valley begins with a cow herder finding the *Pasupatinath linga*. The earliest history recorded of Kingdoms, through evidence – occurs with the *Kiratas* (Dwaparyug, mentioned in the Mahabharat epic as kingdoms from the Himalayas) and *Licchavis* who were from Vaishali and Muzaffarpur in modern northern Bihar and conquered Kathmandu Valley.

Licchavi Gramas recorded in history:

1. *Koligrama*: Existed east of Kapilavastu, of the Sakyas
2. *Daksinakoligrama*: More populous and mentioned

1 In Mahayana Buddhism, a *bodhisattva* refers to anyone who has made a voluntary yearning and benevolent mind to attain *Buddhahood* to end the suffering of the sentient living.

2 In Sanskrit, *Swayambhu* means: That which is created by its own accord.

in inscriptions as a *dranga*³

3. *Vaidygrama*: Mentioned in Sivadeva II's *silapatra*. In early 12th CE, Daksinakoligram/*Yangala* came to be known as *Kasthamandapa* (a *sattal/dharamsala*)⁴ that stood beside the west-east Trans-Himalayan trade route. Its earliest mentions come from 1143 AD. By 17th CE, *Malla* inscriptions speak of the area North of this - *Yambu* (Northern field). Together, *Yambu* and *Yangala* with the Durbar in the center formed erstwhile Kantipura, as stated in *Gopalarajavamsavali* (records of the Kingdom) and the Tibetan Blue Annals. In a banner made during Svayambhu's restoration, these regions are depicted with *Yambu* symbolized by Jana Bahal and *Yangala* by *Kasthamandapa*.

The erstwhile city of Old Kathmandu formed at the confluence of the rivers Bishnumati and Bagmati – has myths of Goddess Lakshmi having appeared in *Gunakamadeva's*⁵ dreams and ordered its conception. Lying on the Trans-Himalayan trade and Buddhist-Network, this region attracted farmer castes who became merchants – and this region became the entrepot of socio-cultural influences from India, Tibet, and China. The original inhabitants – the “tribal” Newari's continue to live in their traditional housing – with their vernacular traditions.

3.1 The Newar

The Newars are a community whose ancestral land lies in the Kathmandu Valley – though this term appeared in records in the 17th century. However, Regmi believes it must be a term used to refer to “inhabitant of Nepal” much before it appeared in inscriptions^[3]. Newars are considered those people who speak *Nepalbhasa*/Newari as their mother-tongue or are their descendants. The Newars, themselves, sometimes say that those who observe *Mhapuja* are Newars and that those who do not, are not Newars. *Mhapuja* (worship of the body) is intimately connected to the Newari calendar and is the first rite of the Newari year (Nepal Sambat). Their origin has been conjectured by many scholars: Sylvian Levi believes they migrated from the

3 Villages (grama) were grouped into dranga for administration.

4 Kasthamandap was a three-storied public shelter that included a shrine consecrated to Gorakhanath situated at Maru, Kathmandu, Nepal.

5 Gunakamadeva was a Licchavi ruler who founded city of Kathmandu in 723 AD.

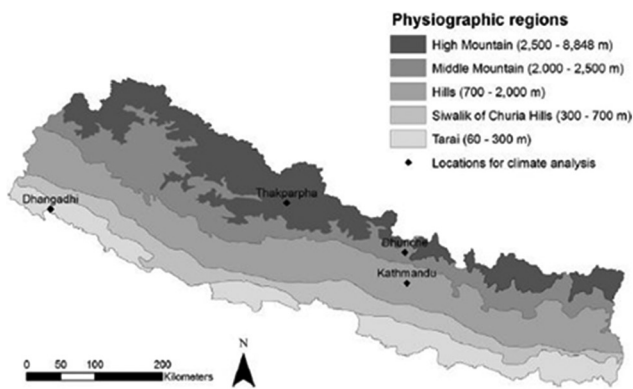
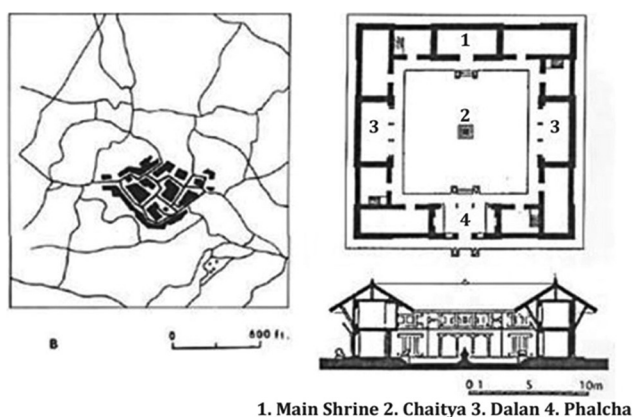


Figure 1. Physiographic conditions prevailing in Nepal.



1. Main Shrine 2. Chaitya 3. Dalan 4. Phalcha

Figure 2. Parts of a Newari courtyard house.

Northern Himalayas while Fürer-Haimendorf states that they have existed in the valley since prehistoric times^[4]. K.P *Malla* believes that they were Austro-Asiatic who was assimilated by the Mongoloid *Kiratas*^[5]. Over time, the invaders (such as the *Mallas* from Tirhut, Bihar) who became immigrants absorbed Newari traditions despite retaining some of their original cultural and social traits. They speak a Tibeto-Burman language, which is similar to that of Nepalese tribes *Gurungs*, *Magars*, *Rai*, etc.: Its literary dialects, over time, were influenced by Indo-Aryan languages. The *Licchavi* rulers already used Sanskrit in their inscriptions, although they relied on a non-Sanskrit vocabulary for many administrative terms, personal names, and more than eighty percent of the place names, according to Mary Slusser^[6].

3.2 Study area

Nepal's territory spreads out about 800 km east-west and 200 km north-south displaying a highly changing topography [Figure 1]. Altitude

stretches from 65 m above sea level (m.a.s.l.) to 8848 m.a.s.l. at the Mount Everest. This leads to a complex system of climatic and vegetation zones. Climate has also influenced the settlement patterns and the traditional materials used for construction. In addition, Nepal's populace is composed of different ethnic groups as a result of gradual resettlement of Tibeto-Burman people and Indo-Aryans from the south-west. Each ethnic group exhibits unique culture, belief-systems, language, and resultant traditions. The geographical range has resulted in diverse socioeconomic and cultural patterns and, thus, in a variety of different architectural expressions. The research region, Kathmandu, according to the above graphic from International Centre for Integrated Mountain Development lies in the Hilly region (700–2000 m.a.s.l.)⁶.

Nepal has large climatic variations from hot sub-tropical climate to cold tundra climate. Several geographical factors influence the climate of the country, such as latitude, altitude, slope orientation, prevailing as well as local winds, and vegetation. Shrestha divides Nepal into five climatic regions, namely, sub-tropical, warm temperate, cool temperate, alpine, and tundra climate^[7].

The native availability of certain building materials, especially mineral-based materials, depends on the geology of the location. The geodynamic processes prevalent in the Himalayan region is the reason why Nepal's geology has a high complexity of many thrusting, faulting, folding, and metamorphic effects. Nepal is divided into five distinct morpho-geotectonic zones from south to north: The *Tarai* Tectonic Zone, the *Churia* Zone (also called: Siwalik), the Lesser Himalayan Zone, the Higher Himalayan Zone, and the Tibetan Tethyan Zone^[8]. These five zones comprise a total number of eight geomorphic regions, which lead to different kinds of available materials for building construction. In addition, the climatic conditions determine the typical vegetation in a region and, thus, the availability of raw building materials like wood. Kathmandu (27°42' N, 85°22' E) exhibits the warm-temperate climate that is mainly dominant in the Hilly Region. During the summer, the outdoor conditions have average temperatures between 20 and 24°C. In winter, the average temperature drops at 10°C. In January, minimum temperatures at 2°C have been recorded during the night. The precipitation ranges

6 ICIMOD, GIS Datasets of Nepal 1:250,000, 2013.

between 9 mm and 106 mm in the dry season, while an average of 365 mm is expected during the monsoon. Temperature in Nepal's warm-temperate climate is not extremely low during winter. Therefore, solar radiation, along with thermal mass of the building is sufficient to maintain the indoor temperature at a comfortable level. The orientation of buildings should be such that the longer face is placed along the south direction and has medium-sized punctures; this enables solar heat gains in the winter and decreases overheating in summer. Shading devices for windows are advisable for the summer season. From December to January, active heating might be required because of cool air currents that visit the valley over the snow-capped peaks. In humid summer months, adequate ventilation is the essential sustainable design strategy for Kathmandu's warm-temperate climate. The monsoon season brings in heavy rains which require effectively-designed protection and community-level rain-water harvesting planning.

3.3 Appraisal of existing arrangement of vernacular dwellings

Houses are arranged in clusters along the streets or around inter-connected courtyards. These courtyard-clusters are planned in such a way that at a neighborhood-level they open into large, open community squares with public amenities such as wells, *Hiti* (community water-points), shrines, temples, market junctions, or a Stupa [Figure 2]. These elements which are part of the urban fabric act as both functional spaces and visual markers for the community: Such as the temples, *Pati* (public rest house), water wells and *Dhungedhara* (stone water spouts), *Stupa - Chaitya* (Buddhist shrines), and *Dabali* (an elevated platform)^[9]. All the major routes converge at the open squares. Secondary streets and narrow alleys branch out from them leading into the courtyard-houses – their junctions giving rise to other elements springing up, stitching more elements into the larger urban fabric. These junctions, if they consist of Buddhist shrines in them were called *bahas*, and the ones without any particular shrines were called *nani* or *chukka*. The temples and public-utility buildings were raised on multiple stepped-plinths that taper the width of the platform from the base as they go higher. Consequently, these edifices are placed at a higher level than the dwellings to instill a sense of hierarchy. The temples were visible from

a distance and also the ground served the purpose of commerce or circulation.

Most of the settlements have a direct association with a temple of a tutelary deity, and each of them had their own festivals connected to the local deity along with the general Newari festivals.

3.4 Vernacular dwellings

The building form was strongly dependent on the settlement density and the ethnicity of its inhabitants. *Newar* houses were part of a highly-dense, compact settlement which were arranged to create inter-connected courtyards^[10]. The courtyards were designed to allow solar penetration into the buildings and provide warm exterior spaces for household activities during the winter season when the angle of the sun is low. Larger windows are placed in the longer facade that faced the sun. *Newar* houses have typically three or three and a half stories^[11]. Until the early 16th-century residential houses did not exceed the height of the temples in *Newar* settlements. The low interior height that ranged between 1.6 m and 1.9 m made it easier to heat the building during winter season. Depending on the number of stories, building space is arranged either horizontally or vertically^[11]. Spatial planning in *Newar* houses is done vertically. The ground floor acts as a buffer during the winter season when low temperature prevails. This floor also doubles as a storage area. The private spaces are located on the first floor, and the main living spaces are situated on the second floor. Both these spaces receive enough solar radiation through wall-openings to warm the interior spaces during the day. Space is used as kitchen with an open fireplace^[12]. Due to the location of the kitchen on the top of the building, living and sleeping areas are cosseted from overheating in summer. Rooms are to be double-banked.

The courtyard of the *Newar* houses is an important semi-open space for chores and community spaces. Sundried or burnt clay-bricks are used as the major walling material. The walls have a thickness between 0.28 m and 0.70 m, contributing to the thermal mass of the building. The exterior wall is made of burnt bricks while on the interior side, sun-dried inside bricks are used. The typical roof type applied in the warm temperate climate of Nepal is the pitched roof supported by a timber structure and covered by thatch, stone slates or tiles. A roof overhang of a minimum 50 cm protects the walls during the

monsoon and shades the facade such that solar penetration is minimized during the summer season. *Newar* architecture follows a water-inclusive roof building technique using burnt clay tiles, which are placed on a mud layer of 4–10 cm.

Houses in the warm temperate climate of Nepal have a stone foundation that protects from flooding during the monsoon season^[13]. The ceilings hang low (up to 1.80 m) to decrease the air volume that requires heating during the winter. In all studied houses, a timber network of beams and pillars is used to bear the load of the ceiling. It is layered with lathwork and rough layer of 20 cm mud plaster and a final coat of clay and cow dung. In other cases, earth is used for flooring. Timber is available aplenty in the hilly region and is, therefore, it is used for structural and roofing material. The layers of mud and clay increase the thermal mass of the volume and help in balancing the diurnal temperature changes.

In *Newar* houses, the living room has an ornate and pronounced decorative window with timber carvings that allow sun rays of lower angles to penetrate the interior spaces during the winter [Figure 3]. Houses also have louvered windows to prevent excess solar penetration, located toward the south and west directions, during the summer months. In the dense *Newar* settlements, the arrangement of an array of courtyards assures passive heating during the winter. The roof overhang displays a decorative character especially in temples and stately buildings where elaborate wood-carvings depicting deities, protective symbols or natural forms are observed. The roof overhang protects the vertical walls, adjacent to them, from the monsoon showers. Vernacular houses in this region exhibit a rectangular floor-plan. The longer edge of the facade with the louvered openings is oriented toward the south to increase solar-gains during colder months of the winter.

The thermal bulk is beneficial to store solar heat gains from daylight for colder nights. The low ceiling reduced air volume, due to low ceiling heights, further contribute to decreasing the heating requirements. The internal space arrangement of *Newar* houses, vertically, is optimized for the cold winter because it allows buffer areas in the ground and the upper floors to keep the living and resting spaces comfortable. It can be concluded that the vernacular houses in Kathmandu are well adapted to the prevailing climatic conditions. They inherently

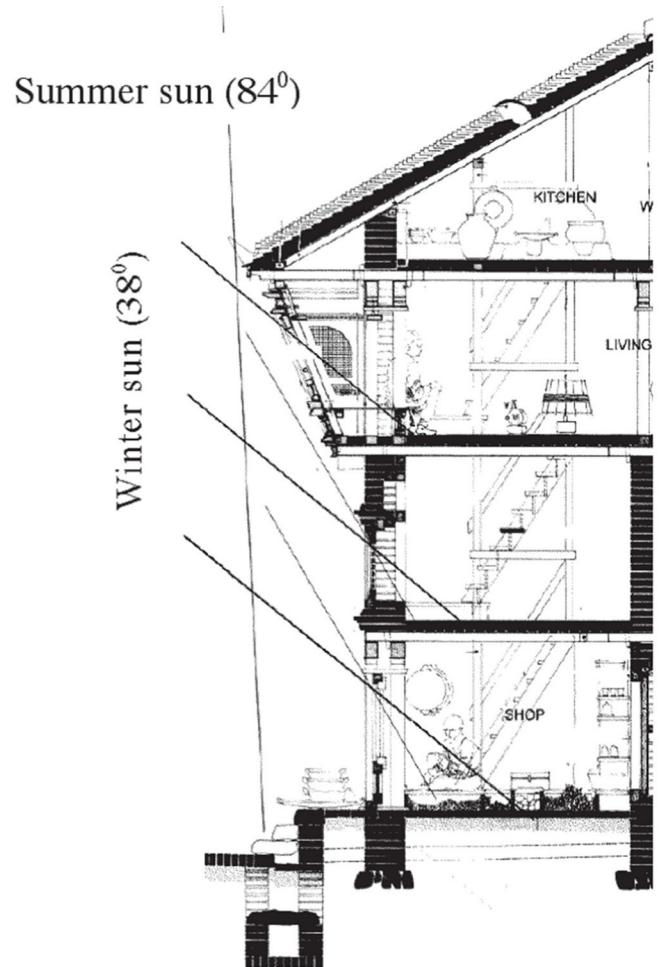


Figure 3. Seasonal variation of solar penetration into Newari houses (source: A. Kumar Upadhyay).

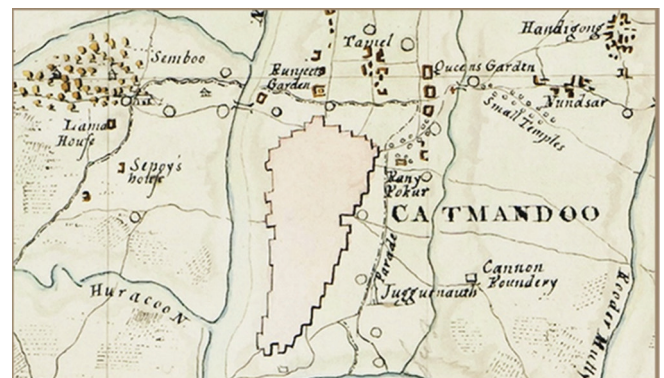


Figure 4. Map drawn by T Francis Buchanan-Hamilton showing the fort-wall in 1802.

consist of climate-responsive design solutions in their settlement through planning and elements like the roof overhangs and louvered windows.

4 Analysis

The festival cycle of Nepal begins in the month of *Magh* (January–February) with the festivals of *Magh*

Sankranti; *Bisket* and *Bode Jatra*s in *Baisaakh* (May–April); *Tij* in *Bhadad* (August–September); and *Indra Jatra* and *Holi* in *Asaar* (September–October) followed by *Tihar* in *Kaathik* (October–November). For our study, we are focusing on the rituals related to the festival of *Indra Jatra* celebrated mainly in Kathmandu City in the *Asaar*.

This festival has multiple layers that have developed from what began as a sacred processional ritual in memory of the ancestors and the members of the family who passed away in the recent year, *Upaku Wonegu*, to a *Kumari Rath Yatra* that began in the 17th century under the *Malla* Kingdom as part of a festival to honor the tutelary deity of the kingdom and celebrate the then Kantipur (current historic core of Kathmandu). A fort-wall is said to have defined the boundaries of the then kingdom which was brought down when the kingdom was annexed by Prithvi Narayan Shah, a Gorkha conqueror.

These layers are determined by the following factors:

- a. The Rituals
- b. The participants
- c. The community organizing the rituals
- d. The festive route
- e. The spaces where these rituals take place in.

The term *Indra Jatra* stems from a mythological tale passed on through generations about an incident where Lord Indra came down to the earth as a common man to obtain *Parijat* flowers for his mother. *Maru* is the region in Kathmandu, right in the center of the Historic Core [Figure 4], where he is supposed to have been caught stealing and imprisoned by the local *gyapus* (the farmer community) who then bound his arms. His mother, worried about her son's whereabouts, comes looking for him only to find him shamed as a prisoner and being dragged to *Kal Bhairab* (the local deity) for justice. She stops them and discloses their identities on which the people release Lord Indra and worship them. She then grants them a boon that there will always be monsoon aplenty for the *gyapus* farms in this region and that she would take all the souls of the city who were wandering about in this realm to *Indraloka*. Therefore, during *Indra Jatra*, *khats* (raised wooden platforms) containing an idol of Indra with outstretched arms, bound by chains, are placed in various important junctions names *Maru*, *Nardevi*, *Kilagha*, etc.

On the first night of the *Rath Yatra* (which is carried on 3 days to different regions of the settlement), a masked

deity *Dagin* is joined by people in white attire, in a procession, to collect the souls of the *pitru* (ancestors) who will then pass onto the higher realm⁷. The rituals belonging to *Indra Jatra* are community-based because they play out in the streets of Kathmandu involving individuals as part of the community through organizations called the *guthis*, which carry out preparations, management, and execution of various performances, processions, feasts, and other rituals⁸. In Figure 5, the highlighted elements represent how a junction is transformed into a place of ritual importance through elements such as the *Khat* and the lamp-stand, which heighten the sense of festivity, generate activities, and guide the movement of the *Rath Yatra*. People participate as on-lookers and actors in this space. The importance of community spaces such as the *Dabu* (a platform made of brick in public places which acts as a stage or platform) becomes the stage for the ritual performances such as the *Devi Nach* performed by a particular *Maharjan* community (one of the many *Jyapu* communities who are involved in the *Indra Jatra*).

Seven such Junctions or *Chowks* of ritual importance exist. In the traditional settlements, these junctions were part of a network of courtyards around which the *Newar* houses were arranged. These are congregational spaces where people celebrated community festivals and occasions.

These junctions along with other traditional street infrastructure like the *Falcha* (a semi-open, shaded seating area lined against a wall, along streets) and *Hitis* (community wells with open platforms at various levels which were cooler than the rest of the area and spaces of religious importance) are of primary importance to festivals because of the rituals taking place here and belief systems embedded in them [Figure 6].

These spaces, over time, under urban pressures, and the changing significance of traditional spaces, over time, along with the adoption of contemporary construction methods – have either become stand-alone structures, spaces frequented only by passers-by or serve the basic function of being ancillary spaces for domestic activities [Figure 7]. The vibrancy

7 Based on site-survey, local interviews and primary documentation of the festival done in September, 2018 by the author.

8 Sudesh, S. (2019). Spatial Manifestation of the *Indra Jatra* (Published Postgraduate Thesis). School of Planning and Architecture, Bhopal, India.

brought into these spaces with the interaction of the community when they were a part of their lives is now slowly moving toward a state of redundancy, especially with shortages in underground water-supply and the shift toward choosing commercial areas instead of community spaces for gatherings.

The *Chowks* are now cluttered with commercial establishments, parking lots, and traffic movement, which have altered the very ethos of the spaces [Figure 8]. The traditional facades allowed balconies and buildings called *Satthals*, which had ornate corridors and balconies which acted as viewing platforms when processions or performances took

place in the street before them. Such *Satthals* have now turned into private properties while modern facades do not take into account balconies or openings and this has led to a discontinuity.

During *Jatras*, people living along major streets (where processions take place) like the *Gunakamadeva Marg* open their homes to the public so they can stand on their rooftops and any other openings to see the procession [Figure 9]. The traffic movement is curbed, and the streets transform into a ritual space where people gather to either participate, organize or view the rituals. Taking the example of Nardevi Chowk, it hosts the lamps and the *Indra ko Khat* on all the 8 days. Processions of the masked deities perform on its platform, and it is also one of the nodes that form the *Rath Yatra* routes. This chowk attracts large, mobile crowds and is located adjacent to the *Nardevi* shrine. The routes pass by the *Ajimas* – ancestral deities of the community and the *Nardevi* is one such shrine. This renders the space a sacred character heightening its importance in the overall network.

The *Dabu*, which remains empty during the day and hosts a few vegetable vendors on usual days, is transformed into a place where people gather and sit around the *dabu* like it was used before. Similarly, all these traditionally placed public spaces which were

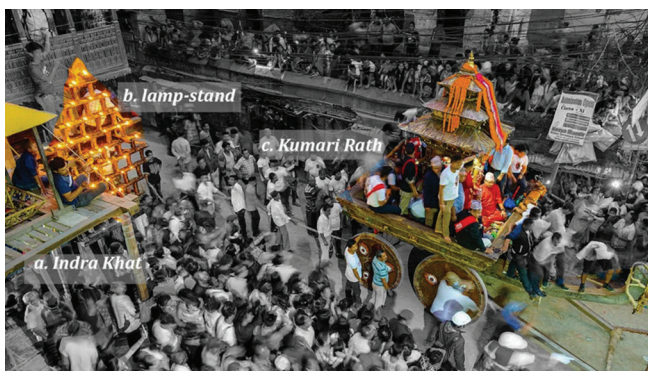


Figure 5. Kumari Rath being pulled along Nardevi Chowk (image source: Thomas Dutour, 2016).



(left) Narrow streets, (center) Pati, (right) A hiti (source: 2017MC0001)



Yetkha Bahal - Panoramic View

Figure 6. The characteristic elements of *Newar* settlements (source: Author).



Figure 7. The Upaku shrine and *Falcha* located in Dhoka Tol being used as a storage shed (source: Author).



Figure 8. Bangemuda Chowk which was an important landmark is now overshadowed by towering buildings, and its central junction character is dominated by vehicular use (source: Author).



Figure 9. Locals perched in the balconies and terraces awaiting the procession in 1930. Looking at Maru from the street of Chikanmuga (source: Juju Kazi).



Figure 10. Hiti in the Historic core (source: Author).

once significant in the lifestyle of the people have now become redundant, or their use has transformed. The *Hitis* (community water-wells) was once a place where shared resources were used by communities living nearby it. The underground water supply was efficiently used avoiding the necessity for tanks or any pipelines. The open courts, *dabus*, and *sathals* were used as a part of the community. Instead of isolating families in their respective dwellings, the community spent most of its time sunbathing in the open courts during winters decreasing heating loads of individual households. The feasts organized in various communities, *Samay Baji*, is prepared by a group within the members are distributed, or one single host invites the others to their home. This interaction not only maintained community-engagement but also encourage shared resource-usage. The utility of public spaces lessened the dependency on single-household heating requirements during winter months during daylight hours. In the current situation, where water

is being procured through pipelines – the reverence with which they treated a community resource such as a *Hiti* has lessened, leading to a sharp increase in usage and wastage, likewise. Similarly, community gatherings which were earlier encouraged in designated community spaces now, more often than not, take place in individual dwellings thus, gradually, rendering the significance of these spaces redundant. The spatial model followed by their predecessors ensured less pressure on individual dwellings and utilization of open spaces and collective resources rather than creating multiple, individual pressure points that slowly deteriorate the conditions and effectiveness of traditional methods of resource distribution and utilization.

The *Indra Jatra* reinforces these qualities in these public spaces – bringing to life the original, intended purposes of these spaces transforming them into dynamic public places and, more importantly, resources.

The junctions, *patis*, *falchas*, *dabus*, and courtyards which acted as pause-points for the narrow streets and dense settlement are unclogged off the parked vehicles and other hindrances for ritual purposes. The public stays outside, on the streets, using front yards, thresholds, and verandas as viewing pavilions as they were used before the advent of technology and the evolution of the more inward-bound lifestyle of the common man. Performances encourage people to gather and appreciate tales of the yore. The climate is never deterrent. The traditional houses were equipped with long overhangs that provide shade to passersby and the public. During the *Upaku Wonegu*, the various *Hitis* are also part of the series of shrines which the procession-goers visit as part of the ritual. These *Hitis* were the only source of water, once but not many people are aware of their locations throughout the settlement except the larger ones, which are associated with temples [Figure 10]. Both Hindus and Buddhists believe that *Hitis* are gifts from *Nagas*. *Hitis* are maintained and worshipped during *Nag Panchami*⁹. During this particular procession they have to light lamps and offer grains at various shrines. This leads to their exposure to the knowledge of these public water-points throughout

9 Naga Panchami is a day of traditional worship of Nagas or snakes observed by Hindus throughout India, Nepal, and other countries where Hindu adherents live. The worship is offered on the fifth day of bright half of lunar month of Shravana, according to the Hindu calendar.

the old city. The idea of a resource or space being *sacred* in nature renders a sense of additional responsibility or fear within the people's mind.

5 Conclusions

The spatial planning of Newar settlements in the historic core of Kathmandu is done to encourage a shared sense of ownership among the community over the public places and resources such as traditional water-spouts and religious shrines. The vernacular *Newar* houses inherently consist of climate-responsive design solutions through efficient planning and elements such as the roof overhangs and louvered windows. These minimize solar heat gains during summer months while the thermal mass in the fabric protects the house from diurnal temperature changes during winter months. Traditional rituals as part of the *Indra Jatra* reinforce the significance of these public spaces and utilities in the lives of the people through specific processions that have been assigned sacred locations during the 8 days of the festival in the monsoon.

The dwellings and the lifestyle of the Newar community exhibit an informed sensitivity about their resources and requirements. Their spatial planning, traditional building techniques, maintenance rituals, and dwellings vary from the indigenous people from other regions of the country and their unique approach to their climate according to their requirements keeping in mind community, and the individual is an example for the world to learn from.

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