

Is There Something Like a Himalayan City?

A study of Urban Form and Public Places in Nepal

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Abstract

Cities are the storehouse of culture, history, and institutions. Today, they represent places where people derive their socio-cultural identities; they also provide opportunities for everyone. An outright rejection or ignorance of the vernacular, colonial, and modern history of our cities is bound to lead to development but with unsuitable results.

This research looks at key characteristics of the overall urban form and public places of cities in Nepal. It presents information on the morphological uniqueness of Himalayan cities. These cities have always been the melting pot of many cultures, ideology, and practices. They have also evolved some of the most architecturally sophisticated built environment. This environment is not only suitable to the area's climate and socio-cultural demands; it is also the most environmentally sustainable. We need to systematically deconstruct the vernacular traditions of city building from the perspective of urban design and architecture. Such a study gives us a broader perspective on the issue of Himalayan built-form tradition, cutting across national boundaries.

The cities studied represent two different scales: settlement pattern and public places. The response of settlement patterns to climate and topography is something that could be of immense interest in understanding cities. The four main cities used in this case study are Kathmandu, Bhaktapur, Mustang, and Manang. The first two are settlements situated in the Newar valley. They are very refined examples, from the point of view of understanding the role of social structure and religious practice on urban form. Mustang and Manang are relatively smaller but well formed settlements, situated in mid-western Nepal. They are important for understanding the role of political economy (ancient trade) and climate on urban form.

Background: Narratives of the past

Old Cities are often seen as cultural heritage of significance that demands public attention. Most often than not, certain old buildings of Architectural significance become the mascot of the conservation efforts and become tangible artifacts in public memory that demand attention and care. This arrangement suits all parties concerned as cities make rapid strides towards becoming what is perceived as "modern" in form of extra wide roads, swanky shopping complexes or mammoth stadiums without guilt of having ignored its past. The abstraction of old architecture as an iconic Artifact or an object to be viewed as heritage of the place becomes an easily replicable political formula that suits the urban administrators.

The heritage in Architecture that we perceive today is often a final fixed expression of the physical and cultural relationships that existed or maybe still remains. It is an outcome of the manner in which societies choose to organize their life in the past. The "iconic building" model of heritage conservation while performs an important

function in archiving the past expressions, often does not depict the honest reality of its context. Moreover the 'iconic' heritage buildings only allow for understanding of the classical art expressions patronized by the state and often do not refer to the modest ones by the community at large. The later may allow us to have a more nuanced and wider understanding involving the role of local cultural practices.

A critical study of city form and its public spaces can often give insights into the community practices of organizing and articulating of spaces. The older city fabric of Nepal is still intact in certain part but is fast undergoing change. It is urgent that we dwell deeper into the formal and cultural aspects of spaces to have meaningful lessons for future development and also conservation policies and practices.

Land, Water, and 'Place' Making

The Patan town in Kathmandu valley is typical of many such in hilly areas, with settlements built in the higher grounds and agriculture in the lower. Patan has had layers of history with written records, sculpture and fragmentary architectural remains scattered throughout the city attest to the Licchavi period settlement (Slusser 1997: 96). A small study carried out around the valley areas seems to suggest a natural preference for certain landforms over the other while location settlements. It seems most old settlement are perched around a ridge like condition with agricultural fields below the settlement in a semi-circular area. See figure 1.

On further analysis it become clear why such landforms become preferred location of human habitation. The ridges are dry often rocky conditions not fit for any agriculture and also the highest point in the region; ideal for building a house within the safety from flood water on a piece of land otherwise good for nothing. The ridge also offers possibilities to control tracks of land on both its side, a kind of vantage position to guard and protect ones most valuable assets: agriculture fields. This is a traditional practice based on local knowledge systems of the people and is a fundamental attitude towards land that will influence the form of any settlement. So the act of locating settlement in space is of prime concern and at least in the Kathmandu valley area a specific attitude is evident.

The town of Patan can be easily read as lying on a ridge. An abstract diagram (Figure 2) quite clearly establishes the particular position of the town with respect to the bend of the river flood plains. This seems to be a rudimentary rule of location in Newar region. Further north in the settlement of Manang one finds a very different attitude towards settlement locations. Manang is a small town in the trans Himalayan region, not very far from Tibet (China) border. The region is dry and bitter cold with sparse vegetation found around the settlements only. The topography is marked by fairly large river valley that originates from the melting ice of the glacier further upstream.

Due to geographical phenomenon the river valley are very deep and large and most of the settlements are to be found in these river valley. The dry and cold conditions make farming only possible at limited locations. The slopes leading to large rivers become ideal places for a settlement to exist. This is not so much to use the river water for irrigation but more to use the water from the streams that are going towards the river down the slope. Interestingly water and its availability becomes the fundamental factor in deciding on the location and then subsequent development of the settlement. So the societies in this region have attached significance to the presence of natural network of feeder streams and worked their settlements around it. Juniper trees are planted all along these streams that make their way from the higher slopes to the

settlements and its agricultural fields. The Juniper tree is regarded as the sacred guardian (Lama 2004) elements that are supposed to protect the water source. This conscious deployment of natural elements like a tree around another natural element of water poses interesting questions on the relationship of the community with the natural landscape around. The natural systems are considered sacred but their elements are at the same time modified and combined to create a new human-nature realm.

The expression around water streams takes a very different form in the Kathmandu valley region. The peepul tree and a small shrine are often found to be around the lowest point of the ground slopes at the place from where the water is received from upstream and then goes down to the fields. See Figure 3. This gesture of marking space through worship of the Peepul tree and installing a shrine has immense cultural significance as the space is invoked through use of religious symbols and rituals. The publicness of the space is further emphasized by a small plinth below the tree that supports community activities and many idols of worship around the tree trunk. The water, plinth, tree and the religious artifacts together attach a certain meaning over a period of time. This is perhaps the beginnings of place making that acknowledges certain landscape conditions and will have to be accounted for while studying public places and temple complexes in old cities.

The acknowledgement of water gets reflected through different expressions within the town of Manang. Water is revered, guarded and acknowledged but not necessarily celebrated in space like in the dry-arid regions of the Indian sub-continent. In Manang for example the main public community place of importance gets built around a stream outfall around which is a water hole for horses and for washing purposes. The two guardians Juniper trees on both sides of the water outlets add a level of importance and accord protection. The main public space follows the direction that is established by the water outfalls and the trees, mani prayer wheels, stupa and monastery combine together to hold the place as one of community importance. It is interesting how natural elements are modified and accorded a level of both importance and protection through use of religious artifacts. This again together forms a 'place' that becomes special and one of community importance over a period of time. This is a place where the old gather, or the place where the feasts are cooked at the community kitchen, the place to settle disputes, the place to get married, to catch the latest gossip, to gamble, drink, make merry or just a place to loathe around and catch the afternoon sun. See figure 4 and 5

The community washing places around the water stream in Kagbeni (Mustang) forms the most important public place on the edge of the old city. It is interesting how the water stream that skirts the old city has a very interesting public dimension, all due to the Juniper trees all along its bank giving both an ecological as well as a social response to the place. At the place where the pedestrian path intersects the water stream, a small area is made for washing clothes, along with a local brewery that makes raski (apple whisky) surrounded by some houses and the old monastery. Here again it seems to be an interesting mix of trees, water, community structure and the monastery that adds a public dimension to the place.

In Patan, which was a capital town with a strong tradition of fine arts and architecture, such public places become larger than life in terms of both size and elaboration by their gestures of water structures and building architecture. This can be observed in the Kumbheshwar temple complex that has a five-tiered building with three water fountain ponds and large open space around it. But the origin of the complex seems

to have been in the invocation of the place itself. The position of the large peepul tree behind the water pond along with the topographical condition of the area suggests very humble origins of the place much like many such shrines around the town.

The temple complex is on a special landscape zone; at the point where contours turn and surface water channels are formed. The large peepul tree with a small shrine forms backdrop to the five storied temple structure. It is not surprising that water fountains (hitis) and water ponds form important parts of the whole experience of the temple complex. This is an interesting example of a public place that celebrates water as it flows from higher slopes of the city towards the river by according a level of importance to the water structure by their architecture (and embellishments). What's more, these water fountains are actually pauses in an elaborate system of urban water conduits that are channelized along natural slopes for community use. But then they no longer remain utility structures and are revealed by their elaboration, presence of religious shrines in the fountains and positioning around sacred trees and temples. Again, the issue of 'place making' around natural elements of water and trees is a very fundamental in this part of the world and that is what perhaps draws people over time.

Water, social space, and city structure

The town of Patan, as observed earlier can be read as lying on a ridge like condition controlling agriculture land on its north and east towards the Bagmati river. But this idea of ridge condition can explain the general location of the town with respect to the river and topography but does not still help in understanding the structure of the town. The structure here refers to the basic form of the town that defines its key characteristic. For example Patan town has the main circulation running from the central areas towards north and east. Two major parallel roads running east to west and a large ceremonial open space (Durbar Square) in the center of the city in front of the palace compound. The housing is many a time around series of inter-connected courtyards (often with a monastery within the court along with some stupa and chaitya). The road edge of such housing blocks are dense with much more open space inside in form of courts or fruit yards. There is a presence of many large formal courtyards, which indicates role of institutions like monasteries and temples in shaping the city. Public places of the town can be seen in enlarged spaces at street junctions, circling around temples, water fountains and ponds and shared courtyards around houses and in Palace square (Durbar Square)

One can safely assume that the movement of people is a very important determinant, which shapes up a city. Streets often form the backbone around which built mass is woven. A small study of settlements around the Kathmandu valley revealed a pattern that was usually observed as extension of the core of the cities or as connectors between two settlements. These were generally linear strip like development of houses with a road in between and more often than not it was parallel to a water streams moving from higher to lower level. Since such settlements are linear, there is a limit to their growth. But what is most interesting in these settlements is an idea of the front, which is the public face of the built form and the backside, which is personal private and negotiates with the natural condition of slopes towards the water source. This negotiation of the back of the built fabric is in form of private yards, agriculture fields and orchards.

The conditions are important for conceptual understanding as linear strips of built form that position itself in cusp of the two very distinct realms of nature on one side

and man made movement corridor on the other. This seems to be a very common phenomenon in much hill valley condition but a very important one for understanding larger towns that expanded to cover such linear stripsiii.

If we were to look for similar characteristics in Patan it becomes difficult to read historic patterns of either movement of water or roads in a densely packed fabric. To understand the role of water (both surface and underground) a contour slope analysis was carried out on the topography of Patan town. See figure 6. The red lines indicate ridges and with blue ones indicate the valleys and flow of surface water during monsoon period. Further correlation of this water movement with the settlement and existing road condition leads to interesting results. Most of the road towards the north and eastern sides of the sloping part outside the core run parallel to the water streams that were identified through the slope analysis. It is very clear that the movement routes are a direct response to the topographical condition on the eastern edge of the town as all of them run parallel to the valley conditions that are formed parallel to the movement of surface water. This is the typical negotiation of the surface water stream that we have observed in many other smaller settlements in the valley.

This is one of the important system that influences the form of the city as it guides the space that gets organized around these movement axes and also form the backbone of the most important physical and physiological link of man with agriculture. These short connections form the backbone to hold the key communal elements and function of the city at a more immediate basis. This is the “social space”iv that communities create, nurture and mould for their own self. This is a very intimate and communally responsive feature that emerges from the attitude of the community towards their landscape and agriculture. It has qualities of immediacy and close connection with the daily life and perhaps ritual of the people of Patan.

Apart from the natural flow of surface water on the ground, the man made systems of irrigation will also need to be accounted for while understanding structure of the town. Most old and new cities in such river valley areas have grown on top of previous agricultural fields but the memories and imprints of activities still remain. The harnessing of natural flow of water to the fields is one of the most prominent features in the many areas around the Kathmandu valley. In the case of Kathmandu valley the role of the state irrigation projects during the Malla period is of immense significance for understanding urban form. See figure 7 that shows the traditional state irrigation scheme Rajkulo around the Chappagaonv area represented through a sketch diagram.

The water is tapped upstream and brought to areas above the agricultural fields through earthen canals and then distributed through a network of tangential channels that move from higher to lower levels and parallel smaller channels that move along the contours. However there are some distinct features in this system of harnessing water that has immense repercussion on space from public place perspective. The water channels usually run in between two different agricultural fields and often of separate ownership. The pedestrian trail also typically runs along these earthen canals. So these linear strips are often the public zones in the area. If in future this area were to be urbanized then usually the roads will be along these public axis of canals and trails so as to have minimum and equitable land acquisition of private farmlands. These roads often do a dual function of carrying water and being movement channels. A lot of what we see as roads running along the slopes can be attributed to such historic network of canals in the area.

City and the world beyond

The manner in which city is imagined in relationship with the surrounding landscapes and the world outside is of immense importance for understanding its structure. This is more pertinent for capitals and cities with political influence beyond their own boundaries. The choice of location the core area of the Patan does suggest a very conscious attitude towards landscape imagined at a very large scale. The image of the city with respect to the outside world further gets established the main North-West to South-East connectors that runs adjacent the Durbar square, Mangal Bazaar, Sundhara and points towards the mound on the North-East which has a monastery cluster and the West Stupa. This can also be read as the connection with the realm of the city: its link with the world outside. The Machhendranath rath jatravi also passes through this route to finally reach the village of Bunagmati where it stays for six months.

This is an important phenomenon and can be further understood from the point of nature of interaction between the realm of religious symbolism and the natural landscape. Mounds and hillocks have always had special symbolism in Hindu and Buddhist culture and have been revered to be sacred and also removed from the humanly existence. The path leading to the mound is suggestive of a very important status to the hillock, most probably due to the importance of the monastery (Raksevera Mahavihar Bahi) that must have existed on it or due to the West Stupavii. Julia Shaw (2009: 127) discussed the important concept of the hilltop Stupa while discussing the topographical context to the Buddhist archaeological site at Sanchi in India. The other perspective can be had from the role of the monastery itself in facilitating cross border trade. Sanghas, at least the Indian sub continent have facilitated the trade by providing lodging, storage and lending facilities in monasteries to merchants. The Kathmandu valley has historically been a hub for long distance trade with Tibet and the Indian Sub-continent (Whelpton 2008: 27)

Two very distinct systems give an overall structure to the town. The first one is a result of an imagined positioning of the town in the landscape and a symbolic long axis connects it with the world beyond. The other is a skillful negotiation of the natural landscape while using the same to ones advantage and recognizing opportunities to create space of communal significance. The structure of the town becomes both powerful and flexible when these two very different spatial systems are superimposed in one space and that is what adds such an urbane character to the Patan. A kind of a grid is achieved when these two systems that emerges out of very different concern come together. See figure 8. Together these connectors form the skeleton of the town. The Durbar square lies at the very important junction where these two systems (one highly imaginary and one very real) come together.

In the case of trans Himalayan settlements of Kagbeni (Mustang) and Manang the settlement connects to the outside through two entry points in opposite sides running parallel to the river valley direction. One on the north will take the travelers to Tibet part of China whereas the other goes towards mainland Nepal and then India. This is a more linear relationship with the world and the trade route is the only physical connection with the outside. There are agriculture fields just outside the town and often some monastery nearby, and after that it is usually miles of barren mountains. But even though it might appear to be dependent on the trade routes, these settlements are a world by themselves with their local monastery, farming, animal husbandry etc. The overall settlement form derives from this linear connection on two sides and the water that flows perpendicular to it. This linear connection is the 'man-made'

intervention with the world beyond and often becomes the spine of the settlements along the slope. This man made and the natural connections along the water streams combine to give the basic skeleton to the city

The importance of 'other'/Role of Buddhist monastery

Hindu kings about always, ruled Cities of Kathmandu valley and Buddhists formed a substantial bulk of the population. The Buddhist tradition and its role in influencing space in Newar valley can be probed further. Gerard Toffin (1991: 75) had hinted on the role Buddhist monument in Kathmandu and Patan, would have played in creating spatial symbolism by quoting the Svayambhu Purana (an important Buddhist text) at a very general level. Niels Gutshow (1997: 13) also refers to the concept of Kathmandu valley being connoted as a Mandala in Buddhist texts. The general notion as related to spatial location of Buddhist Monasteries in Newar cities has always assumed them to be part of the main city.

On a closer examination of certain monasteries with respect to the main core of Patan that we have identified along with the landscape around it, leads to certain interesting findings. John Locke (1985: 187) and many other authors have clearly articulated the difference of between the bahi and baha type of monastery in Newar region both in terms of the difference in its Architecture form as well as practice. The bahis are relics of an earlier tradition and were soon relegated to the outside due to changes in ideas of celibate monk, social high status of the Vajracharya and sanction of the tantric Buddhism by the ruling elite. Gellner (2003: 160) concludes with certainty that bahi monastery represent the older monastic tradition within Buddhism, which soon went out of favor with the advent of the concept of the married monks. Moreover the Bahis were reduce to being the older marginalized monastic tradition as Hindu Brahmanical practice influenced the majority of the Buddhist rituals as well. Akira Shimada (2009: 219) in his article of monasteries and urbanity in India explained a very important concept. While studying monasteries in Central and Southern India, that exist just outside the urban center but they were never really out in the wilderness or forest. In his article the authors goes on to speculate the role of monasteries in taking up other function of the city, that were considered demeaning like handling the cremation of lower castes and even trade.

The location of most bahis in Patan shows some striking similarities as most are towards the periphery (outside) of the main core of the city and most are in prominent landscape conditions. Many of the bahi are on the edge of the core town. As concluded by Shimada (2009: 219) monasteries that existed outside the city were not necessarily out in the wilderness but at once they were an antithesis to the concept of urbanity^{viii} but were also dependent on the urban centers for its sustenance and growth. It is quite possible that Bahi Monasteries were really located outside the city core and some continued to occupy important position on the main routes leading out to the city. Over a period of time, they became part of the main town. The role of monasteries in negotiating and defining the peripheral spaces needs to be accounted for while understanding the settlement pattern of towns like Patan.

The house as a window to the city

A house can often give lot of clues about the city. The urban residential structure of the Patan town shares morphological uniqueness with the other valley settlements of Kathmandu, Bhaktapur, Thimi and Kiritipur. Neils Gutschow (1978: 57) in his important work on structure of Bhaktapur town has demonstrated the relevance and function of the square as a key feature in the city and went on to establish the

correlation between rituals and space. The residential clusters with multiple communal courtyards, which are found in cities of the valley is something that is unique to the region. The idea of residential square and its adaptation in the course of time is an embodiment of very formal attitude towards space organization and needs to be further analyzed. The focus of architecture studies so far has been tending towards classical artifacts (important buildings) and the Durbar square (the large public place in front of the Patan palace) and most subject experts have largely ignored such residential clusters.

The first clue that helps explain the form of the residential cluster seems to come from the monastery itself. One can safely assume that existence of monastery as an institution in some form or other predates the origin of much of Patan town. The architecture of the monastery offers interesting possibilities from the point of view of replicability and diffusion of ideas about space. The monastery embodies ideas of a perfect formal negative space in form of a courtyard around which activities are organized. The monastery structure by virtue of organizing space in a clean, perfect and skilled manner elevated the idea of a courtyard from a mere utilitarian element to that of hallowed, dignified and tranquil space. Such space offered an inner perfection or freedom within, independent of the world outside. Seen in context with the Buddhist philosophy of removal of self from the immediate world or for search of the inner truth, the courtyard space was a complete expression of these ideals. The courtyard seems to offer an inner freedom, which perhaps also complimented the psyche of the Buddhist community, whose religion never ever became the religion of the state.

The next important stage must have been the change in practice from celibate to married monks. The fact that family (married monks) quarters were organized around the monastery courtyard must have connoted very communal and domestic ideas about the space now. This must have been an important step in diffusion of the idea of courtyard outside the monastery structure itself. It was a kind of readymade template available to be used and perfected over a period of time for organizing residential spaces in the city. This template of courtyard based residential communal living offered possibilities to create a world within, which signified both freedom and sacredness at the same time. So it is not surprising to find many such residential clusters in Patan with monasteries, Stupa and Chaitya as formally incorporated in the clusters themselves. See figure 9.

The vernacular housing typology in Newar region has also contributed to the success of the residential courtyard based spaces. The typical rural house type in Newar region is linear with double bays running parallel to the ridge. Often even in rural setting the house would turn to form 'L' shaped plan. This house type was perfect to be used in forming clusters of many such houses that surround a rectangular or square courtyard due to its inherent spatial flexibility. The gable ends of the house get connected with adjacent units and long sides continue to remain open on both sides to get light and air. Moreover the linear bay system allows for the house to be turned in the corner without much apparent problems. Once corners are taken care of the rectangular built form around the courtyard is complete.

Discussions

The case study of Patan and Dhulikhel in Kathmandu valley along with Kagbeni (Mustang) and Manang in trans Himalayan region throws interesting insights into the issue of urban form, from both settlement and public place perspective. The presence

of refined systems like water management, public spaces, institutions, water fountains, irrigation features, multiple courtyard housing clusters is a testimonial to the urbane aspects of these settlements. The unique topographical and climatic conditions in the Himalayan chain of mountain have led to particular attitude towards natural resources and especially water. This becomes more evident from the case studies in Nepal. Moreover the built form expression in overall city structure, public places and architecture is a result of such an attitude towards nature.

The settlements in Kathmandu valley demonstrate how surface water flow of rivulets, streams and the river becomes a basis for deciding the location and structure of the local movement system in form of roads. The relationship between water movement and flow of public spaces and consequently rituals of everyday life becomes more evident here. The importance of cultural markings in special landscape conditions around the flow of water becomes a basis of creating sacred spaces in form of temple precincts. Similarly settlements in trans Himalayas are attached parallel to the main river flow while receiving the water from uphill streams to form linear settlements on the south slopes. The formation of key public places is essentially a result of spatial organization around these water streams along with monastery and community structures like kitchen and meeting hall.

The role of the ‘other’ (Buddhist) tradition within Patan as both a reference to a courtyard based spatial system within monasteries and also in terms of their appropriation of the town periphery (see discussions on Bahi monasteries) has had immense influence on public place characteristics on the edge of the town and courtyard based housing system in the valley.

Generic Conclusions

The study allows us to understand the evolution of urban form in the Himalayas by correlating its nature with the cultural geography of the place. It became clear through various analyses that natural surface flow of water becomes the basis for locating and organizing city structure. The water flow becomes a basis for reading topography by the community. Land is understood through water. The other related issue of “place making” in form invoking of space through religious symbolism and anchored in and around special landscape conditions created by tree, water and land modulation is very important for understanding the public connotationix of such structures.

Apart from the measured response to natural elements, the role of innovation as a man-made intervention in a city is of immense value as introducing a disparate system of space making in contrast to the naturally evolved once. Usually it is the combination of these two that give a ‘city’ quality to the place. And finally the space organization principles within the domain of religious architecture often propagates beyond its own domain to capture the imagination of community at large and begin to influence the general fabric of the town as seen in Patan.

Acknowledgement

All photographs by author

All sketches by author

Plans have incorporated CAD drawings as base layer.

Source Kathmandu Valley Town Development Committee (KVTDC)

Aerial pictures using Google Maps

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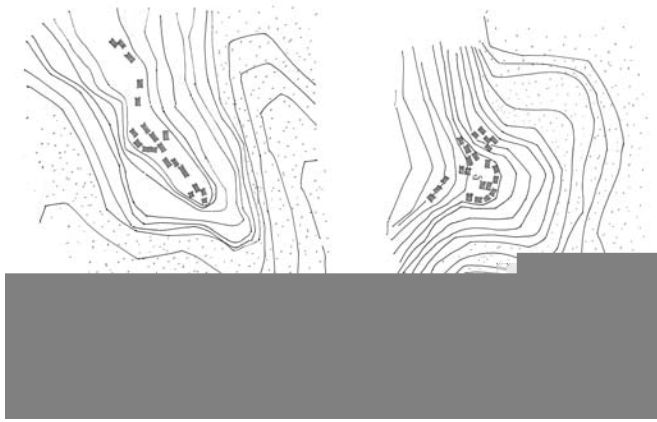


Figure 1: Settlements on Ridge



Figure 2: Patan on the Ridge

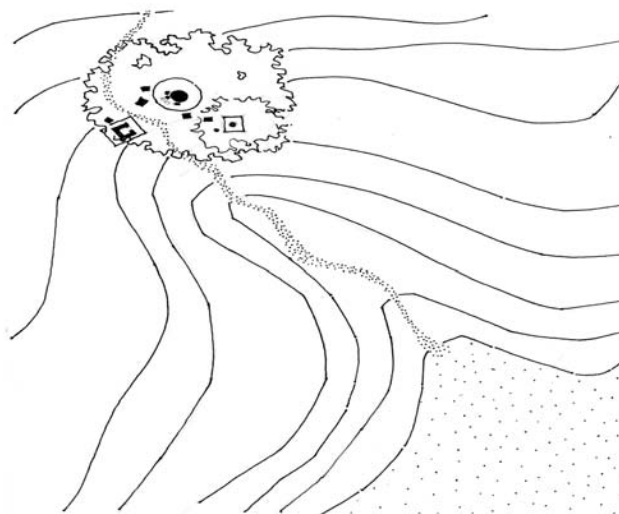


Figure 3: The peepul tree, water and temple

Figure 4: The community place of Manang

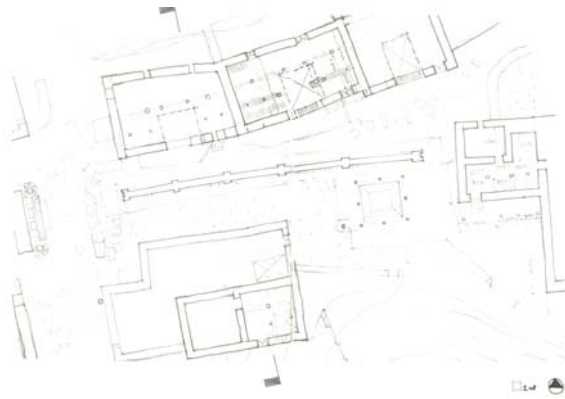


Figure 5: Plan of the community place, Manang

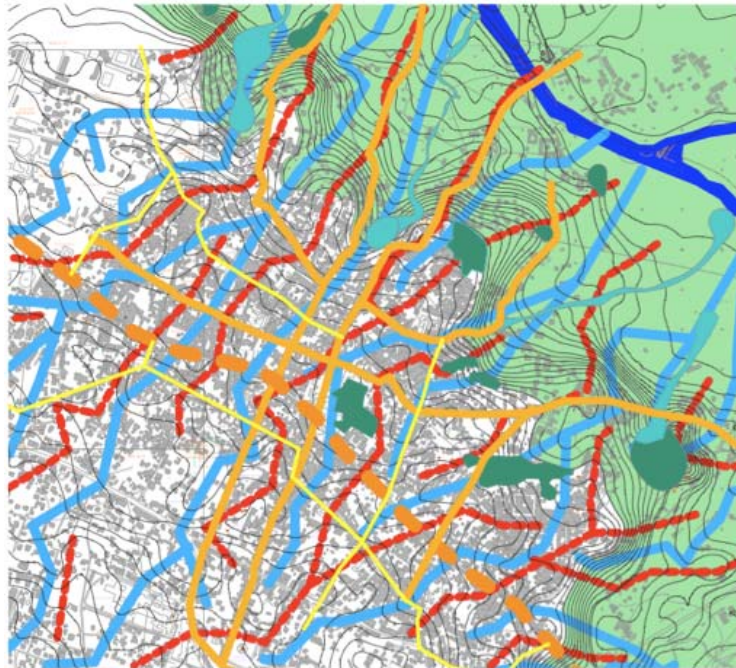


Figure 6: Contour Analysis for Patan

Figure 7: State Irrigation and agriculture fields

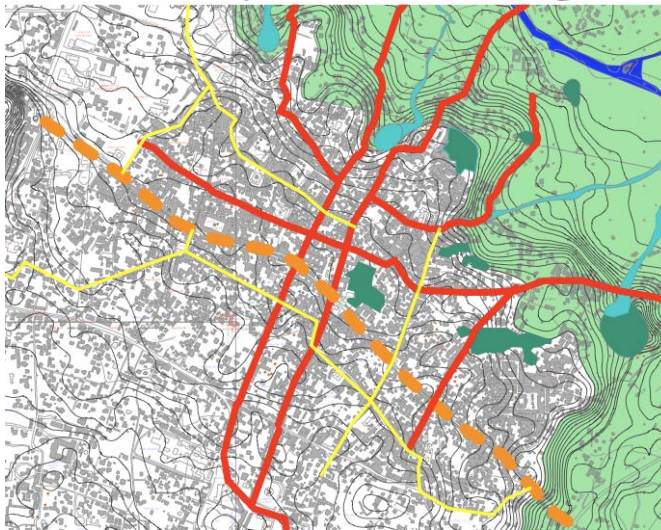
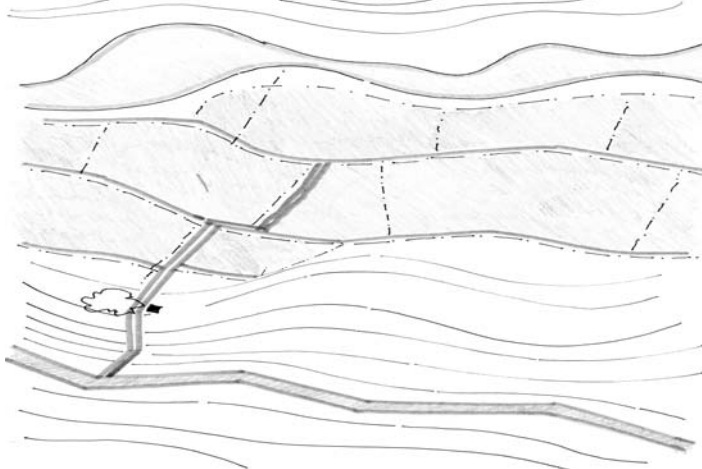


Figure 8: Two different structuring system, Patan

Figure 9: Courtyard based residential clusters



End Notes

- i. The first act of location on land itself is a very important one. It has profound influence on how future growth of the city is possible.
- ii. A contour and slope analysis has been carried out to understand the nature of surface water flow and its relationship with the temple complex.
- iii. Most old cities like Patan would have outgrown their original core and would have engulfed either neighboring hamlets and such linear extensions. The historical description by Mary Shepherd Slusser about growth and origin of Patan corroborate such outgrowth.
- iv. Using Lefebvre (Production of Space) concept of social space.
- v. Chhapagaon is a village south of Patan.
- vi. Machhendranath rath Yatra is an annual procession of chariot with a temple which is pulled across the town of Patan to finally reach the village of Bungamati.
- vii. Presently houses and shops occupy the entire Pulchowk hillock. It is only when one probes further through drawings and some ground verification one realises some historical importance of this place as a special natural condition with some institution of symbolic importance.
- viii. The concept of the celibate monk as associated with Bahis fits well conceptually if these monasteries existed outside the periphery of the city.
- ix. The places in towns like Patan and Kathmandu around a large temple complex are often lying in special landscape zones. The place might have been more important and then the temple added sanctity to the space.