

Urban Planning of the Heritage City of Varanasi (India) and its role in Regional Development

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ABSTRACT

Varanasi records a settlement history since ca 800 BCE. However, the present city has grown during the early 18th century. Spreads over an area of 84.55 km², the city is inhabited by 1.50 million people (in 2001), consisting of Hindus (63%), Muslim (30%) and other religious groups. Additionally, everyday about 40,000 commuters visit the city, which increases to 60,000 during festive season. There are ca 3000 Hindu sanctuaries, and 1388 Muslim shrines. The vividness and multiplicity, and diversity and unity are easily envisioned in its religion, culture, society and economy – altogether making a mosaic. Every year about a million Indian pilgrims come here, and approximately 125,000 tourists from abroad visit this city. Till mid 19th century the urban landscape was dominated by tracts of garden-groves and linking water bodies and drains that helped to maintain ecological order and escape from water logging. Under the 'Master Plan 2011' the expanded area proposed for the Greater Varanasi is 179.27 km². The major changes since 1991 as in the Plan, indicate a catastrophic increase of land under government and semi-government uses (+390.50%), and public and community facilities (+190.63%). This catastrophic change spoils the ecological system of land use; the most crucial group is park and open ground that records decrease of over 60% in comparison to 1999.

The ancient association of the Ganga river with religious, traditional and cultural fabric of the city and the immense influence of associated activities on the development of economic and social life of the city and related tangible and intangible cultural expressions are unique in the world. "The Ganga River and the Riverfront & Old City Heritage Zone of Varanasi" is being in the process of proposal for nomination to the World Heritage List of UNESCO under the category of 'cultural properties'. The heritage zones, areas and properties identified there are at the risk or even destruction due to immense pressures from tourism, economic development and population pressures. The increasing population is over burdening the carrying capacity of urban environment and the river ecosystem and unplanned mass tourism could potentially have a hard impact on the cultural carrying capacity of the old city centre and the river ecosystem. The move made by local NGOs and citizens has activated city administration to reformulate measures for preservation of the cultural heritage of Varanasi. Ultimately there is an urgent need to re-vitalise the city with re-establishing the ecological ordering by promoting civic sense and active public participation, and coordination among various institutions. Since ancient past the city of Varanasi has been serving as the cultural and regional capital. And, at present its role as node in regional development need to be realised and planning strategies to be made accordingly.

Key words: Urban heritage, Riverfront Ghats, Master Plan, Public participation, City region.

1 THE BASIS: GROWTH OF URBAN FABRIC IN THE PAST

Varanasi, known as the Cultural Capital of India, records a settlement history since ca 800 BCE. However, the present city has grown during the early 18th century. Varanasi acquired status of a million city (as urban agglomeration) in 1991 and recorded a population of 1,211,749 in 2001, and ranked 23rd in the hierarchy of million cities in India. The city's population consists of predominant Hindus (63%), substantial Muslims (30%) and other religious groups. The main city spreads over an area of 84.55 km², and is inhabited by 1.21 million people, consisting of Hindus (63%), Muslim (30%) and other religious groups. Additionally, everyday about 40,000 commuters visit the city, which increases to 60,000 during festive season. There are ca 3000 Hindu sanctuaries, and 1388 Muslim shrines. Existence of 6 Universities and similar institutions, 150 Muslim schools, ca 100 Sanskrit schools, and 50 Inter and Degree colleges make the place as "City of Learning". The vividness and multiplicity, and diversity and unity are easily envisioned in its religion, culture, society and economy – altogether making a cultural mosaic, in which festivities play a major role.

The impact of intense development pressures is harder in the old city centre where population density reaches to 500 to 700 persons/ha. Every year about half million Indian pilgrims/ devout Hindus comes here, and approximately 125,000 tourists from abroad visit this city. Till mid 19th century the urban landscape was dominated by tracts of garden-groves and linking water bodies and drains that helped to maintain ecological order and escape from water logging. Under the 'Master Plan 2011' the expanded area proposed for the Greater Varanasi is 179.27 km². The major changes since 1991 as in the Plan, indicate a catastrophic increase of land under government and semi-government uses (+390.50%), and public and community facilities (+190.63%). This catastrophic change spoils the ecological system of land use; the most crucial group is park and open ground that records decrease of over 60% in comparison to 1999.

Kosambi (1970: 90) rightly remarks that “the first cities with full continuity into history lies on the river route, in spite of the difficulty of settling alluvial regions. Their foundation at the beginning of the first millennium can be explained only on the basis of still earlier navigation on these powerful rivers that flowed swiftly through impenetrable forest and swamps”. In the similar way Varanasi might have grown, and after passage of time became the most famous sacred place of Hinduism. The archaeological findings at Rajghat (northern part of Banaras city) confirm the existence of urban settlements during 800-500 BCE. Ashoka (272-242 BCE), the great Mauryan king, had declared Buddhism a state religion and visited Sarnath. Under his patronage there developed a Buddhist township with many monasteries, stupas and shrines. The inscriptions of Kushana king Kanishka, dated 3rd century CE, refer to the persistence of Buddhism together with animistic religion of Yaksha.

The Pali and Buddhist literature mention the structure, condition and some plans of the city of Varanasi, especially narrating the six beautiful gates surrounding the city and moats along the main protecting rampart walls. Perhaps these gates were linked to the market areas in the city. The city was dominated by mud houses planned in a rectangular design, but by the turn of 2nd century BCE burnt bricks became common in making buildings. The structural plan clearly showed the open spaces between two houses and segregating lanes. Such plans continued even in the Gupta period, 4th to 6th century CE. By CE 490 the Vishvesvara (Vishvanatha) temple had already been built, and in CE 6th century Jangamabari Math was already established.

By the Gupta period the city expanded, following a rough rectangular plan. The main roads were running parallel to the Ganga river, north-south. Evidences support that the city was divided by many wide roads and lanes, however there was no well-planned design. Even today north-south main axial roads and similar structure are marked (cf. Singh, 2005). During the period of Harsha (606-648 AD), a great Chinese pilgrim Hsüan-tsang paid visit to Varanasi and described the city as conglomerate of congested houses separated by narrow lanes, garden and groves, and water pools with lotus flowers.

The major expansion and transformation of landscape took place between 8th and 12th centuries. The first settlements were in the north to the confluence of the Varana to the Ganga, and later expanded in the southern side reaching to the present Kashi railway station. By the mid 10th century the Pratihara dynasty ruled the city and expanded its settlements in the southern part, however by the turn of 11th century the city came under the Gahadvalas that continued till 1197. In the Gahadavala period the city reached to its zenith. Three zones surrounding Omkareshvara, Vishveshvara and Kedareshvara temples came out in full bloom associated with sacredness and settlements, inhabited by traders and migrants belonging to various linguistic-cultural groups from different parts of India. After the demolition of Rajghat fort (CE 1194-97) by Aibak and Shahabuddin the inhabitants of the area had to shift toward the west and south-west. Temples were destroyed in 1300s under Firoz Shah Tughlaq (1351-1388). In the 1400s, again under the rule of Sharqi kings of Jaunpur temples were destroyed. During the moments of calm, the Hindus rebuilt temples and lingas but they were again destroyed by the next wave of invaders. Under the rule of Lodis (1451-1526) a major part of the city was destroyed by Sikander Lodi.

A great sigh of relief was surely heaved when Mughal Emperor Akbar (1556-1605) granted more religious freedom. The Rajputs Man Singh and Todarmal, the two senior ministers in the court of Akbar, participated actively in repairing, rebuilding and in new construction of temples and Banaras ghats during his period. The Vishvanatha temple was rebuilt for a third time at a third place under the supervision of Narayana Bhatta. By the order of Aurangzeb (1658-1707), around thousand temples, including city's greatest temples like Vishveshvara, Krittivasa, and Vindu Madhava, were razed. In 1665 the French traveller Jean Baptiste

Tavernier, paid a visit to Banaras and described the architectural beauty of Vindu Madhava temple at the riverside. His account is notable because the temple was demolished in 1673 by the armies of Aurangzeb. There is no major religious sanctuary in the city of Banaras that pre-dates the time of Aurangzeb in the 17th century. The city of Puranic glory and beauty as it was known in the 12th century had disappeared by the end of 17th century. Of course, the sacred city could not be destroyed, but it could certainly be defaced.

During the 18th century under the influence of the Marathas (1734-1785), substantial part of the city had been rebuilt. The city became the recipient of the gratitude, the wealth, the skill and energy of the Marathas. It is said that 'Modern Banaras is largely a creation of the Marathas'. Bajirao Peshva I (1720-40) had patronised construction of Manikarnika and Dashashvamedh Ghats and nearby residential quarters. A number of ghats, water pools and noted temples of Vishvanatha, Trilochana, Annapurna, Sakshi Vinayaka and Kala Bhairava were rebuilt under Maratha patronage. Queen Ahilyabai of Indore built the present Vishvanatha temple in 1775-76. As one after another ghat was added, the temples rose, the city regained its gaiety, and its educational system was revitalised. The urban area of the city continued to develop along the river under the British rule.

By the approval of the British Governor-General Warren Hastings in 1791, Jonathan Duncan, a British resident in Banaras, founded a Sanskrit College, and in 1853 the present buildings of the college were built in Gothic style. In 1916, the Viceroy of India, Lord Hardinge, laid the foundation stone of what would become one of the largest and most beautiful universities in Asia, i.e. Banaras Hindu University. During the early decades of the 19th century Banaras was typical of an oriental city. Streets were not wide enough for wheeled carriage particularly in the densely settled residential areas. The streets generally were at a lower level than the entrance of the houses and shops that lined them. The Grand Trunk road passed from the northern outskirts of the city and the river Ganga was not bridged near Rajghat. The riverside and the inner zone of the city were approached by numerous narrow lanes as one can see even today.

The Municipal Board was instituted in 1867 under the Municipal Act XXVI of 1850, with a view to introducing a general improvement in the existing condition of the city. In continuation of such improvements, the site of the Maidagin tank gradually came to be replaced by a park known as the Company Garden, north of the present Maidagin-Kashi station road. Opposite the garden, to the south of the road, the Town Hall was built, as a result of the efforts of the Maharaja of Vijayanagar, and is surrounded by a large open space that lends itself to the holding of public meetings and functions in the centre of the city (cf. Singh, 2007). The introduction of various branches of N. and N.E. Railways along with the construction of the railway bridge near Rajghat, installation of water works and provision of improved sewerage and drainage works in the last quarter of the 19th century, all these widely modified the urban fabric of Banaras.

India received independence from the British rule on the 15th of August 1947. Since then no substantive change in the urban fabric and city morphology is recorded. On 15th October 1949 the district of Banaras assumed its present form and area by the merger of the erstwhile Banaras State (Kashiraj), and the city of Banaras became the district headquarters. In 1948 The Banaras Improvement Trust was constituted for making 'Master Plan of Banaras', and in 1951 the first such plan was prepared. The latest plan, that also demarcates heritage areas, was approved by the State Government on 10th of July 2001. However, due to the lack of the public awareness and active participation, the complex web of bureaucracy and the rise of both individualism and consumerism there seems to be little hope for the proper implementation of these plans.

2 POPULATION CHANGE IN THE 20TH CENTURY & ACROSS

During the three early decades (1891-1921), the population of the city declined by 11.2 per cent mainly due to several unfavourable factors like poor harvest, droughts, irregularities of weather, floods, epidemics and the post war effects of the World War I. In fact, during 1901-1925, Varanasi was one of the most deadly cities in northern India recording high population and insanitary conditions. Since 1921 the city has recorded constant growth of population, recording a growth of + 28.77 per cent in 1981-91. During 1821-31 the growth rate was 3.81 per cent, while it reached to 28.10 during 1931-41. In fact, "in the first half of the decade the falling prices consequent upon the depression of 1931 must have given a stimulus to the city-ward population" (Singh, R. L., 1955: 56). The closing impacts of World War II had also encouraged city-ward march of population. The post war developments, the influx of rural population for employment and immigration of refugee population were responsible for a very rapid growth during 1941-51, however the abrupt situation had changed in course of time, that is how during 1951-61 the growth rate had slightly

declined. This tendency had continued till 1971-81. However, again during 1981-91 the growth rate became slightly higher, mainly due to impact of tendency of rural to urban migration in search of better livelihood and employment opportunities in the city. The city is also upgraded as metropolis in 1991 by recording population over a million. It is expected that the growth rate would further be increased in spite of measures to check it (Table 1). Among the metropolises, Varanasi has constantly been losing its rank in population size: its rank was 12th in 1961 which became 15th, 18th and 22nd in the decades of 1971, 1981 and 1991, respectively. In comparison to other metropolises, its growth is slower mostly due to lack of services related to administrative capital and diversified industrial developments.

Units / Year	1991	2001	2011	2021	2031
Municipal Area	929,270	1,103,951	1,367,278	1,640,216	1,835,197
Urban area Addition	101,593	107,798	205,558	344,502	511,962
VUA, Varanasi Urban Agglomeration	1,030,863	1,211,749	1,572,836	1,984,718	2,347,159
Decadal growth, VUA	29.48	17.55	29.80	26.19	18.26

Table 1. Varanasi, Municipal and Urban Area addition: Population Growth, 1991-2031.

(Source: Based on Census of India reports. *Low projection estimates)

Varanasi Urban Agglomeration (VUA), i.e. metropolis, is constituted of seven urban units of different characteristics and status as defined by the Census of India 1991 and 2001. The details of population of these units are given in Table 2.

Urban unit (Uttar Pradesh code 67)	Population , 2001	Decadal Growth Rate, %			
		1961-71	1971-81	1981-91	1991-01
2.1 VARANASI U.A. (Varanasi Dt.)	1,203,961	23.85	25.50	29.48	16.69
(1) Varanasi	1,092,445	23.04	22.45	28.95	17.58
i. Varanasi (MC)	1,059,961	23.89	22.45	28.57	14.47
ii. Lahartara (OG)	5,223	----	----	----	67.03
iii. Lohta	19,706	----	----	----	----
iv. Kandwa	7,555	----	----	----	----
(2) Varanasi Cantt.	17,259	81.99	65.73	1.64	18.03
(3) Maruadih Rly. Sett.	18,739	----	85.38	17.56	- 23.45
(4) Ramanagar (MB)	40,619	7.17	35.13	28.26	34.87
(5) Sheodaspur (CT)	11,420	----	----	85.43	50.08
(6) Phulwaria (CT)	11,971	----	----	61.87	22.60
(7) Banaras Hindu Univ.(NA)	7,788	40.90	26.12	- 6.63	- 32.3
Mughalsarai U.A. (Chandauli)	116,308	----	----	----	27.11
(1) Mughalsarai (MB)	88,387	----	----	----	32.85
(2) Mughalsarai Rly settl. (NAC)	27,921	----	----	----	11.79

Table 2. Varanasi UA: Population Characteristics, 2001

(Source: Census of India 2001, Series 1, INDIA. Registrar General of India Office, New Delhi, 2003).

It is estimated that the decadal growth rate of Varanasi UA would be increased slowly from 16.64 to 26.19 per cent from 2001 to 2021, however most likely the growth rate will decline to 18.26 by 2031 (cf. Table 1). The earlier estimates by R. L. Singh (1985) are therefore not fitting to the present estimates. In fact, R. L. Singh has not considered the case of Mughalsarai and Ramnagar, the two satellite towns, for his estimates.

At present the Varanasi UA spreads over 144.96 sq.km, thus recording density of 7081 persons/ sq. km, while it was 9434 persons/ sq.km in 1981. The decline of density is the result of the growth of residential colonies outside the UA area together with increase in the defined area of the UA in 1991. According to the Census of 2001, of the total population (1,203,961) only a little over quarter (26.64%) was employed, in which industry and manufacturing recorded 10.72%. Trade and commerce (6.82%) and other services (5.01%) were the other main categories of employment. Among the population engaged in industry and manufacturing (128,930) about half (50.70%) were in spinning and weaving, followed by metal and manufacturing (14.91%), printing and publishing (6.19%), and electrical machinery (5.02%).

3 INDUSTRIAL LANDSCAPE

Out of total inhabitants of 1,202,443 (in 2001) in Varanasi UA, only 26.64% was recorded as employed, in which only 10.72% was engaged as industrial and manufacturing workers. Earlier the city had attracted the artisans, potters, and weavers who initiated the household industrial establishments like ivory work and making of idols, silken brocades, utensil and zarda. Even at present the people engaged in household industries (i.e. spinning and weaving) here constitute a very high share of workers (51%) which is more than that of Kanpur, the industrial hub of Uttar Pradesh. Metal and manufacturing (15%), printing and publishing (6%), and electricity-machinery (5%) are the other important sectors.

The small scale and household industrial sector is better developed employing majority of industrial workers and commuters. These industries mostly include spinning and weaving, followed with textiles, hosiery, chemicals and soap, food, printing and publishing, utensil, fencing net, tobacco, golden and silver foil making. Spinning and weaving is the oldest and most important household industry employing more than half of the industrial workers.

During post-independence period several large scale factories have been developed in and around the city specially along G.T. Road (N.H. 2) between Moghalsarai and Parao, e.g. Hari fertilisers, Woollen Mill, Engineering units, Agricultural equipment manufacturing plants, etc. With the establishment of Diesel Locomotive Works (D.L.W.) during 1961 in the western part of the city, ail industrial landscape has emerged. The factory manufactures diesel locomotives and employs more than 10,000 workers. Encompassing about 200 ha of land there has developed a well-planned colony of 3,000 quarters. Asia's leading designer and manufacturer of diesel and electric locomotives, this unit supplies locomotives also to Asian, East African and other markets.

An Industrial Estate has been developed to the west of the city at Lohta where small-scale industries have sprung up. These incorporate manufacturing of chemicals, plastic goods, iron bars and metal equipments, etc. The city has recently developed a specialised industrial wing of bead and carpet manufacturing. Precisely, no industrial zone is identifiable. The city has grown haphazardly in a natural process. Some new residential are — as have come up with assistance of the Town Planning Organisation, Vikas Pradhikaran, Avas Vikas Parishad and private colonisers.

4 TOURIST LANDSCAPE

Varanasi is one of the top individual tourist destinations in India and about 6 per cent of total international tourists coming to India pay visit to Varanasi. Like any other heritage city, Varanasi is also a product of a unique set of historical, cultural and functional circumstances and presented to particular group of people (i.e. devout Hindus) as a distinct sacred place (for pilgrimage). Tourist Arrivals in recent years in Varanasi shows continuously increase of tourists/pilgrims and also of International tourists. Still the volume of international tourists in Varanasi is considerably high, as it is almost double to some states of India (Singh and Singh 2007). In 2006 the city recorded close to a million domestic tourists and a little over two hundred thousands international tourists, respectively recording 20.6% and 26.1% increase over the previous year.

It is obvious that the major international catastrophes had directly affected the inflow. The terrorist attack on the World Trade Center, New York on 11 September 2001, which resulted to the loss of more than half a million lives, had directly checked the inflow of international tourists. Thus in 2002 there was a decline of 20.5% in tourist influx in Varanasi. This had a severe and multiple bad affect, resulting to loss of about half of the total inflow. In 2002, tourism industry in Varanasi gained a little but again faced great loss in 2003 due to spread of SARS disease in Southeast countries. The countries which having maximum share in Varanasi got severe loss due to SARS which directly affected tourism arrivals. However, since 2004 the tourists flow

to Varanasi has recorded appreciating speedy growth. The local religious and cultural life of Varanasi together with its built architectural heritage and the natural landscape of the Ganga river constitute an immense resource for heritage and sustainable tourism, both Indian and foreign visitors.

This city is very important especially for pilgrimage tourism where tourist enjoy morning boat ride, walk in narrow lanes (gali), feel the Banarasian as well as visit Sarnath where Lord Buddha had given first sermon and established his commune. Sarnath is the second most important tourist attractions after the Ghats of Varanasi. Indirectly by attracting lots of tourist those are followers of Buddhism, Sarnath additionally supports tourists' growth in Varanasi. The number of Indian tourists is continuously increasing since 1998 in case of domestic visitors, but the tendency of international visitors changes according to the global happenings. But in the preceding periods the trend was abrupt that turned according to the prevailing situation in India and internationally.

5 THE MASTER PLAN & HERITAGE ZONES

In 1982 the Varanasi Development Authority (VDA, formed in 1974) made an assessment of the earlier plans of the city. And, under its direction, the Town & County Planning Organisation, TCPO, prepared a comprehensive Master Plan of Varanasi 1991-2011, during which time the population of Varanasi Agglomeration is expected to double of the 1991 (cf. Table 1). The five-tier areal units are defined on the basis of administration and planning strategy, taking Varanasi Development Region, VDR (as in Master Plan 2011). From lower to higher hierarchy they are: Varanasi City Municipal Corporation 84.55 km², Varanasi Urban Agglomeration, VUA 112.26 km², Varanasi Master Plan - Operative Area 144.94 km², Varanasi Master Plan - Projected Area 179.27 km², and the outer most Varanasi Development Region, VDR 477.34 km².

Under the Master Plan 2011 the expanded area proposed for the Greater Varanasi is 179.27 km², however no way the land use categories fit to the standard norm of ecological balance. The most noticeable change during 1991-2011 plan is expansion of the area of the city (+112%). The major changes since 1991 as in the Master Plan 2011, introduced after 1988, indicate a catastrophic increase of land under government and semi-government uses (+390.50%), and public and community facilities (+190.63%). The increasing pace of population results to increase area under residential uses up to 253.63% over 1988 (cf. Table 3). This catastrophic change spoils the ecological system of the land use; the most crucial group is park and open ground that records decrease of over 60% in comparison to 1999. Similarly a great loss of agriculture and open land within the master plan area at the rate of above 40% is again a great warning. In addition to the city's population, everyday about 40,000 commuters visit the city; this numbers increases to 60,000 during festive season.

For the first time in the history of Master Plans for Varanasi, some strategies of urban heritage and heritage zoning were proposed in the recent Master Pan (1991-2011; Table 3) to maintain and preserve the religious and cultural symbols of the ancient glory of Varanasi, and to identify necessary facilities and infrastructure and various heritage complexes (cf. Rana and Singh, 2000: 150-154). A little over 2 per cent of the total area in prescribed under tourism and heritage zone. More emphasis has been laid on the government and semi-government uses.

Se	Land Use Category	1988		I: MP, as in 1999		II: MP, as in 2011		Change, I – II, %
		Area, ha	% of area	Area, ha	% of area	Area, ha	% area	
1.	Residential	2,615.64	46.16	5,457.24	37.65	9,254.61	51.62	+ 69.58
2.	Commercial	176.08	3.11	475.10	3.28	618.23	3.45	+ 30.13
3.	Industrial	195.31	3.45	981.37	6.77	656.19	3.66	- 33.13
4.	Public & Community facilities	261.05	4.61	450.42	3.11	1,309.07	7.30	+ 190.63
5.	Recreation (Park/ Open ground)	53.04	0.94	2,705.76	18.67	948.47	5.49	- 64.95
6.	Services &	----	----	----	----	103.97	0.58	---

	Utilities							
7.	Govt. & Semi-Government	56.69	1.00	292.18	2.01	1,433.15	7.99	+ 390.50
8.	Tourism (area) & Heritage zone	----	----	----	----	423.73	2.37	---
9.	Transport & Communication	914.30	16.13	1300.27	8.97	1,460.35	8.15	+ 12.31
10.	Other (agriculture & open space)	1,393.79	24.60	2,832.06	19.54	1,683.45	9.39	- 40.56
	TOTAL Area	5,665.90	100.00	14,494.40	100.00	17,927.22	100.00	+ 23.68

Table 3. Varanasi Master Plans, MP: Land Use, I: 1961-91, and II: 1991-2011
(Source : Varanasi Master Plan—2011. Varanasi Development Authority, & Town & Country Planning Organisation, Varanasi Uttar Pradesh. 13 July 2001; 50pp + 1 Map; ref. page 5)

According to the zoning plan, five heritage zones can be identified in Varanasi.

1. Riverfront Ghats (stairways to the riverbank), the crescent-shaped 6.8km bank of the Ganga river (Ganges), from the confluence of Asi drain in the south to the confluence of the Varana river in the north, where lies eighty-four ghats which are marked by lofty palatial buildings built mostly by kings and lords from different parts of India between eighteenth and twentieth centuries. Among the 84 ghats Dashashvamedha Ghat is the most important place for visitation, festivities and architectural grandeur (Fig.6).

2. Durgakund-Sankatmochan Area, consisting of about twenty temples and shrines and the historical water pools of Durgakund, Kurukshetra and Lolark kundas.

3. Kamachcha-Bhelupura Area, possessing some of the old monasteries, ancient shrines and a site associated with the Jain Tirthankara Parshvanath, together with many buildings of the British period (18th – 19th centuries).

4. Kabir Math (Lahartara) Area, having monasteries related to the life of Kabir.

5. Sarnath, where the Buddha gave his first sermon in 532 BCE, and Ashoka developed township in the 2nd century BCE.

Among the above five, of course the Riverfront City is underway of enlisting under ‘mixed cultural landscape’ in UNESCO Heritage List, ultimately there is an urgent need to re-vitalise the city with re-establishing the ecological ordering by promoting civic sense and active public participation.

6 UNESCO WORLD HERITAGE LIST AND ISSUE OF THE RIVERFRONT GHATS

The Ganga River and the Riverfront & Old City Heritage Zone of Varanasi” being proposed for nomination to the World Heritage List of UNESCO fall mainly into the second category of cultural properties, i.e. “groups of buildings, groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape are of outstanding universal value from the point of view of history, art or science.” These groups of buildings identified in Varanasi fall into the category of historic inhabited town, now enclosed within the modern city precincts, i.e. “historic towns which are still inhabited and which, by their very nature, have developed and will continue to develop under the influence of socio-economic and cultural change, a situation that renders the assessment of their authenticity more difficult and any conservation policy more problematical.”

Furthermore, the Ganga river with its riverfront ghats also fulfil the criteria of Cultural Landscapes as designated in Article 1 of the Convention and specifically that of a cultural landscape “that retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress” and an associative cultural landscape “by virtue of powerful religious, artistic, cultural associations of the natural element.”

The conservation of most heritage properties faces intense pressure. Even if these properties are presently in the same physical conditions as in the last couple of decades and their architectural characteristics are being

maintained without many legal and administrative measures, their architectural integrity is now being threatened. In the name of development, old structures are modified or demolished, even where the structures are made of stone and are not weak. Since the ownership is collective or remote (like maths, ashrams, havelis, palaces, etc.), and renovation work is expensive. Unless stringent measures are taken for protection, there is high probability that new structures, using new building materials, will increasingly replace old architectural shapes and material. Recent construction work and events in the old city demonstrate that even when ownership is in a single proprietor's hands, he prefers rebuilding rather than renovating. Besides these risks, the buffer zones and the skyline of the old city, whose status quo is preserved at this moment, are also being threatened by encroachments and rising heights of buildings.

The increasing impact of pollution and the decreasing volume of water in the Ganga together have a multiplier effect in Varanasi. By end of March the growth of a huge sand-island and speedily downing the water level of the Ganga will be soon proved as a threat to the existence of the Ghats. About three decades ago the width of the river had been 225-250m, however it reached to around 60-70m. The main stream has lost the high speed of the current due to less volume and pressure of water. Close to the Asi Ghat, the first one, the river has already left the bank about 7-8m. The existence of Ghats in Varanasi is in danger because the existence of the Ganga is in danger.

7 TOWARDS SUSTAINABLE URBAN & RURAL PLANNING

Sustainable planning is no way separate from the Eco-friendly planning. If nature is in danger, culture has to pay its price. If both to be taken in an integrated way, it would result to more beneficial in the preservation of the nature and their long-term use by the mankind. In framing the legislative structure care to be taken on these lines. The following major criteria for the development of Ecofriendly structure should be taken into consideration:

1. Structural growth should avoid cutting significant trees and minimise disruption, and eco-system should be maintained.
2. People should respect and ethically preserve the patterns and habitats of wildlife.
3. Building should be spaced to allow the natural scene of trees. Design of house should be made of local construction techniques, materials available and befitting cultural images.
4. Use of automobiles and other vehicles (ships in the holy river, like the Ganga) should be strictly limited, and not allowed after certain distance.
5. Landscaping and waterlines should be in the frame of minimum disruption and limited use of air conditioning.
6. Involvement of local people at different levels and in different activities should be given priority; future policy and strategy always be made in the local environmental perspective.

Remember, a thing is right when it tends to preserve the integrity, stability and beauty of the site as living organism.

8 CITY DEVELOPMENT PLAN UNDER JNNURM

On the 3rd December 2005 the Prime Minister of India, Dr. Manmohan Singh, has declared a development programme for the urban areas called Jawaharlal Nehru National Urban Renewal Mission (JNNURM) through the Ministry of Urban Development/Ministry of Urban Employment and Poverty Alleviation, under the 74th Constitution Amendment Act (CAA), 1992. At its first phase of programme the JNNURM has identified 60 cities, including Varanasi. It has been further noted by him that 'from the point of view of India's national heritage, tourism potential and religious pilgrimage, some cities are of special importance like Varanasi, Amritsar, Haridwar, and Ujjain; and it would be a challenge before this Mission to see that these cities are restored to their historical glory'. The Mission has to work on two ways of improved urban infrastructure and improved urban basic services. The JNNURM plans to trigger deeper process of reform at the state and city level, viz. (i) using fiscal flows to entire service utilities and local governments to change and reform, (ii) decentralisation as potential to spark change and create incentives with the support of effective regulation, and (iii) promoting citizens' demand by making service delivery provision directly to grass level.

The primary objective of the JNNURM is to create productive, efficient, equitable and responsive cities. In line with this objective, the Mission focuses on: (i) Integrated development of infrastructure services, (ii) Securing linkages between asset creation and maintenance for long-run project sustainability, (iii) Accelerating the flow of investment into urban infrastructure services, (iv) Planned development of cities including the peri-urban areas, outgrowths (OG), and urban corridors, (v) Renewal and redevelopment of inner city areas, and (vi) Decentralization of urban services to ensure their availability to the urban poor. In view of these issues the future vision for Varanasi city has emerged to keep and develop it as “economically vibrant, culturally rich tourist city”. Under this programme the City Development Plan (CDP) was prepared by the Municipal Corporation (MC) within a month through a hired agency, Feedback Ventures of New Delhi, and was submitted to the Central Government in September 2006.

Under the above CDP the development strategies emphasise urban infrastructure and governance, and basic services for the urban poor. The three sectoral projects that structure the CDP included (I) infrastructure and governance (water, sewage, solid wastes, tourism and heritage conservation, road and transport and communication, and environmental aspects), (II) slum improvement (slum reforms, and housing), and (III) institutional and financial reforms (e-governance, finance and accounts, and financial operating plan). For the operation of CDP a budget of IRs 614.6 billion has been proposed in the proposal.

Surprisingly, in preparing the CDP no way the ‘Varanasi Master Plan 2011’ in operation was taken into account for assessing land use and spatial planning. In fact, the CDP has only emphasised the financial plans without taking into account any rationality for the carrying capacity, developmental pressures, feasibility, spatial perspective, and above all the public requirements! The issue of tangible and intangible heritage, religious and cultural landscape, were no considered in making plans while they are the backbone and base of its existence and economy.

9 URBAN PLANNING AND DEVELOPMENT OF PERI-URBAN AREAS

The impact of urban sprawl and neighbouring effect is constantly marked by the expansion and growth of two towns across the Ganga river, i.e. Ramnagar and Mughalsarai, lying only at 5km and 18km east of the main city, respectively, respectively recording population of 40,619 and 116,308 in 2001. During 1991-2001 they recorded growth of 35 and 23 per cent, and expected according to the Master Plans up to 30 and 38 per cent in 2001-11, respectively. It is further estimated that both of these towns will be directly linked as a continuous urban space by 2031. This tendency will further intensify the demographic and economic pressure on the city of Varanasi.

For making integration between the urban sprawl and surrounding peri-urban areas there is need to regulate land use at urban fringes. This could be done by setting up a Varanasi Urban Fringe Development Authority. The UFDA could decide on the following (Kumar, Bimal 2003: 51-57):

- (i) Conservation of green areas such as orchards, agriculture, social forestry and allied activities.
- (ii) Development of water management and drainage system. Ponds and other water retention structures be revived. Any encroachment on such land should be identified and legal proceedings against encroachers be initiated.
- (iii) The provisions made under Zamindari Abolition and Land Reforms Acts (specially section 143 and 154) and Consolidation of Holdings Act be used effectively to check diversion of agricultural land for non-agricultural purposes.
- (iv) Heavy fine should be imposed (say ten times the cost of the land) in case of such diversion on the owner of the land.
- (v) In addition to it, if the agricultural land had been sold then capital gain tax should be imposed on purchaser of the land. Because huge capital gain accrues to the builders who develop colonies in such land.
- (vi) The first priority be given to development of social services in the fringe area which will include hospitals, educational centres, training centres for farmers and agro-based industries.
- (vii) Barren and uncultivable land should be identified for development of micro-industrial estates and then for developing multistoried residential complexes which are land saving as well.

Besides urban fringes, there is need to restrict the rate of increase of area under land put to non-agricultural uses, in rural areas in general. This could be made possible by adopting following steps.

- (a) Discourage migration of people of nearby villages. This could be done by increasing transport facility and by improving road networks.
- (b) Strengthen household industries of rural areas by providing them institutional support and market facilities.
- (c) Develop green belt around city and any construction in the green belt area be strictly prohibited.
- (d) Encourage multi-storey buildings and economic flats to weaker sections.

One important aspect of land put to non-agricultural uses is increasing number of residential houses. However, since population growth rate is faster, per person living area is decreasing. Even more disturbing factor is that per person open area in house premises is also declining. This is the trend in even rural areas. Hence space for community uses and common recreation places must be developed even in rural areas. In city planning we leave space for parks, playgrounds and recreation spots. Such planning should also be done for rural areas. Watershed management could then be linked with development of parks and recreation places. Some area could also be reserved for floriculture and horticulture.

10 CONCLUDING REMARKS

Heritage is the mirror of mankind's growth, progress and prospects; that must be preserved. One has to remember that modern science and way of life, and ancient wisdom and its messages can work together to help in searching harmonious and peaceful path of mankind's integrity with nature. In order that this heritage become a resource for development, it needs to be first documented, then protected, maintained and finally utilized according to specific heritage guidelines and legislations. Only then, combined with an increased stakeholder awareness and participation, will policy efforts and interventions become sustainable – environmentally, socially and culturally. We may separate ourselves from the web of our heritage in the line of modernity and secularism, but it would always be in the heart and soul of ourselves (cf. Singh, 1993: 306). A thing is right when it tends to preserve the integrity, stability and beauty of the site as living organism.

It is notable that the move made by local NGOs, experts and eminent citizens of the city, to propose the nomination of the old city centre of Varanasi for inclusion in the UNESCO World Heritage List has activated the present sensitive and positive city administration to propose comprehensive measures for the preservation of the cultural heritage of Varanasi. Mahatma Gandhi rightly warned us that “nature has enough for everybody's need, but not for everybody's greed”. A mass awakening of awareness in the context of old cultural values would promote a new spirit of sustainability. Such a revival, however, need not turn into fundamentalism nor should it cause any damage to secular life. In temporal frame we have to give respect to the past, search solutions in the present, and make directions for the future. Moreover the issue of urban sprawl and interlinks with the surrounding areas (peri-urban) also taken together in the CDP.

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