

MEASURES FOR CONSERVATION OF URBAN HERITAGE OF SRINAGAR CITY: AN EVALUATION OF STRATEGIES IN THE LIGHT OF MASTER PLAN 2035

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INTRODUCTION

Srinagar is well known for its heritage character with more than 1200 years of urban history. To retain its heritage character, the state government has implemented various conservation policies and identified various heritage zones in the Srinagar city in its Master Plan 2035. In this project I have tried to develop an all-encompassing recommended strategies to evaluate the measures in accordance with Master Plan 2035 for conservation of urban heritage of Srinagar city. In addition to that I have attempted to critically evaluate the conservation strategies put forth by Archaeological Survey of India, UNESCO, ICOMOS, INTACH and state department of Archaeology, Archives and Museum. In this project, the analysis is presented within the framework of public policy and intervention strategies, socio-economic and political changes. This project discusses recent planning and urban renewal policies in Srinagar within the contexts of the city's extensive cultural heritage and historic evolution of social and cultural heritage from ancient times to the present. Special attention is given to the architectural and urban design achievements of the ancient, medieval and 19th century periods heritage. A brief description of heritage monuments of Srinagar city is given and the future recommendation to preserve these monuments is also discussed keeping in view the Master Plan 2035.

OBJECTIVES

1. To identify and map the different heritage monuments and sites in Srinagar and recognize the significance, the historical background and different architectural styles of identified buildings and sites included in cultural and natural heritage.
2. To discuss the various conservation strategies recommended by the different international organizations for conservation, preservation and development of urban heritage.
3. To critically analyse the various developmental measures, strategies and planning process taken in the Master Plan 2035 of Srinagar city for the conservation of its urban heritage.

STUDY AREA

The study area covers the area as shown in the Draft of Mater Plan 2035 of Srinagar City. It includes all ancient and medieval monuments and sites of historical importance, the temples and mosques under Trusts and Wakfs, Tourist sports and both natural and cultural (tangible and intangible) heritage. The Study Area is adjacent to, or falls within, the local government areas i.e. areas under Srinagar Development Authority and Srinagar Municipal Corporation of Srinagar.

SIGNIFICANCE OF THE STUDY

The project can help to evaluate the principles and policies for managing the heritage of Srinagar city and can provide for the balanced and compatible management and conservation of the diverse Natural, Indigenous and Cultural heritage values of the Srinagar. It identifies the conservation, planning and management frameworks and mechanisms, as well as legislative and other stakeholder requirements. This will help to suggest amendments to and augmentation of the above to appropriately manage the heritage significance of the Srinagar city.

METHODOLOGY

The methodology used is in accordance with the principles and definitions as set out in the guidelines to the ICOMOS Charter for The Conservation of Places of Cultural Significance, the UNESCO Charter, the Guidelines laid by Archaeological Survey of India, the principles of Heritage conservation laid by INTTACH. I visited the sites personally to evaluate the conservation strategies and planning. This methodology incorporates the following sections: historic analysis (using State Heritage themes), physical assessment, significance assessment, Planning assessment, opportunities and constraints and management policies.

THE SRINAGAR CITY—A BRIEF HISTORICAL PERSPECTIVE AND GEOGRAPHICAL PROFILE

The first account of the spatial history of Srinagar—starting from the city of *Srinagari* founded by *Ashokain* 250 BC at the present village of *Pandrethan* in the east of *Takht-i-Sulaiman* Hill or *Shanker Acharya* Hill—is available in *Kalhan's Rajatarangini*. *Srinagar* remained the capital of Kashmir till the middle of sixth century AD when a new city—*Pravarapura*—was founded by *Parvarasen II* near the *Hari Parbat* Hill also Known as *KohiMaran*. The city extended along the right bank of the river *Jhelum*. With the passage of time *Paravarapura* assumed the old name *Srinagari*. The two capitals of Kashmir have been mentioned by *HieunTsiang*—the first Chinese traveller to visit Kashmir. *Kalhan* described the city as having markets and mansions mostly built of wood reaching the clouds (Khan, 2013). He describes Srinagar in the following words:

“The streams meeting, pure and lovely, at pleasure-residences and near market streets obviously referring to Dal Lake and the River Jhelum, and the numerous canals which intersect the city.”

The later Hindu rulers transferred capital from one place to another. *Lalituditya* founded *Parihaspora*, *Jayapida* laid out the city of *Jayapura* and *Awantivarman* founded the city of *Awantipura* followed by other capitals—*Kaniskapura*, *Juskapura* and *Hushkapura*. All these later capitals lost their importance and Srinagar alone survived. The *Parvarasen's* choice has been admitted as impeccable for its beauty, strategic importance and its intrinsic value (Khan, 2013). The River *Jhelum* serves as the main artery of communication with *Aurel Stein* describing it the city enjoying the facilities which no other side could offer with Srinagar acting as the distributing centre for incoming merchandize from different parts of the Valley (*Stein*). Srinagar acted as distribution centre for incoming merchandize, commanded trade route to India and Central Asia with strategically located rivers and lakes making it invulnerable and the *Dal* and *Anchar* Lakes fulfilling the needs of city population (Khan, 2013). Srinagar city is equidistant from two main commercial towns of the Valley—*Anantnagand Baramulla*—and is also equidistant from *Jammu*, *Rawalpindi*, *Leh* and *Gilgit*(Khan, 2013).

The city of Srinagar during the Muslim rule (1320-1819) became Kashmir or *Shahr-i-Kashmir* with the name also used by western travellers *Bernier* and *Desideri*. Srinagar during this period underwent significant changes but the geographic position of *Parvarasen's* city remained unaltered. *Rinchan*—the first Muslim ruler—founded *Rinchapura* building the first mosque followed by *Allauddin* who founded *Allauddinnpora*—between *Jamia Masjid* and *Ali Kadal*. *Shahabuddin* again selected *Hariparbat* for his capital followed by *Qutbuddin* who persisted with Srinagar, founded *QutbuddinPora* also making *Khanqahi Mualla* as the centre for Islamic teaching. *Sultan Sikander*

built a mosque at the place making it the centre for political and religious activities. *Sultan Zain-ul-Abdin* built Zaina Kadal and founded a new city—*NauShahahr*. The Mar Canal built by him remained till recently the main artery of communication between Srinagar city and the villages near Dal Lake—the production centres. He was responsible for introducing new industries –*shawl, carpet, silk, paper machie, paper, wood carving Namda* and *Gabha*—making Srinagar famous in the Central Asia (Khan, 2013).

This was followed by *SutanHaider Shah's* reign shifting the capital from *NauShahr* to *Nowhatta*, however in *Sultan Hassan Shah's* reign the capital was shifted back to *NauShahr*. The period of Sultan's was followed by Chak dynasty and the period did not see significant spatial development and was marred by internal feuds. This led to Mughal occupation in 1586 AD who operated through their Governors with Hari Parbat fort becoming the centre of political activity. Akbar's reign led to the construction of walled city—*Nagar Nagar*— around the slopes of Hari Parbat. Under the Mughals Srinagar became the city of gardens. Francois Bernier—who visited Srinagar during Aurangzeb's reign—describes the city as the Paradise of Indies. He describes the city not less than three quarters of league in length and half a league in breadth with two bridges over the Jhelum (Khan, 2013). Kashmir Valley became the summer resort for Mughals who fell in love with the landscape and ecology of the place. They built a number of gardens perfecting the gardens landscape. The perfection of landscape of TajMahal would not have been possible without the perfections achieved by Mughals in the garden landscape and architecture in Kashmir. No city in the north of Delhi has the amount and quality of heritage which Srinagar has. The city still has a number of Mughal Gardens—*Nishat, Shalimar* and *ChashmaShahi* in addition to *Mullah Akhun Shah Mosque, PariMahal*—while a number of them including *BaghiDilawar Khan, Baghi Ali Mardan, DewanBagh* etc. have already been lost to urbanization and industrialization in the city.

Father Ippoliti Desideri—who visited Srinagar in 1714 AD—describes Srinagar as:

“the populous character of Srinagar, its lakes surrounded by pleasant gardens and crowded with boats for pleasure and commerce and the lilies growing on the roofs of the houses(Khan, 2013).”

Under the Afghan rule, the fort of Sherghari, the construction of massive fort on the top of Hari Parbat hillock and the construction of Amira Kadal Bridge were major spatial developments in the city. George Foster who visited Srinagar in 1783 AD mentions the city having developed about three miles on either side of the Jhelum with four of five bridges (Khan, 2013).

After several centuries with the advent of Sikhs in 1819 Kashmir again assumed the name Srinagar. Moorcroft who visited the city in the Sikh period describes the city as confused mass of ill-favoured buildings, forming a complicated labyrinth of narrow and dirty lanes, scarcely broad enough for a single cart to pass, badly paved with houses generally two or three stories high—in a state of total neglect (*Khan, 2013*).

District Srinagar district is situated in the centre of Kashmir Valley, is surrounded by five districts. In the north it is flanked by Kargil and Ganderbal in the South by Pulwama, in the north-west by Budgam. The capital city of Srinagar, is located 1585 metres above sea level. The district with a population of around Population (i) Male 665789 (ii) Female 584384 souls (2011- census), is spread over an area of 294 Sq. Kms. It comprises two tehsils/towns viz. Srinagar North and Srinagar South, one block (Srinagar), besides 136 Revenue villages. According to a popular legend which is mentioned in Kalhana's *Rajtaringini* Kashmir valley was a vast lake. Kashyap Rishi drained out the water and made it habitable. It is said that originally Yakshas, and Pisacas tribes inhabited the valley at the higher reaches and did not allow the inhabitants of the valley to live in peace. King Ashok brought Buddhism to Kashmir which was strengthened by Kanishka. In 6th century Huns came to rule the valley and Mihirkul was one of the infamous Hun ruler. The area attained freedom in 530 AD which was short lived. According to Sir Aurel Stein the famous interpreter of Kalhana the chronicler of Kashmir the city of Srinagar had big market and mansions made of wood touching the clouds. Hieun-tsang the famous Chinese traveller visited Srinagar and has described it his memoirs. Various capitals were established by the latter kings but ultimately the city of Srinagar was destined to be the capital of the State. These capitals are now found only in ruins or history. Some of the famous capitals are Parvaerpora of Praversen, Prihaspora of Lalitaditya, Jayapida's Jayapura, Avantivarman's Avantipur and cities of Kanishkapura and Juskapura. During muslim rule Sultan Sadar-ud-din founded Rinchenpur and Ala-ud-din founded Alauddinpura near Hariparbat Hill. Zainul Abideen founded Nowshera as the capital while Akbar founded Naagar Nagar and raised 28ft tall wall around it.

URBAN HERITAGE OF SRINAGAR CITY

Urban Heritage

Heritage is deemed to mean those buildings, artefacts, structures, areas and precincts that are of historic, aesthetic, architectural or cultural significance and should include natural features within such areas or precincts of environmental significance or scenic beauty such as sacred groves, hills, hillocks, water bodies (and the areas adjoining the same), open areas, wooded areas, etc. It must be recognized that the 'cultural landscape' around a heritage site is critical for the interpretation of the site and its built heritage and thus is very much its integral part. The conservation of built heritage is generally perceived to be in the long term interest of society. This can be

better understood if categorized under 'economic', 'cultural', and 'environmental', although they are not mutually exclusive and, indeed, they are often interlocked. Most buildings are capable of beneficial use, whether for their original purpose or for some other use. Buildings and their precincts need to be used in order to survive and such use can be made into an economically viable enterprise. Heritage comprises archaeological sites, remains, ruins, and monuments protected by the Archaeological Survey of India (ASI) and their counterparts in the States, and also a large number of unprotected buildings, groups of buildings, neighbourhoods, and public spaces including landscapes and natural features which provide character and distinctive identity to cities. Conservation plans and projects for cities must take into account both the protected and unprotected components of the heritage.

CONSERVATION OF HERITAGE AS RECOMMENDED BY VARIOUS ORGANIZATIONS

1.1 Guidelines for Conservation of Urban Heritage by UNESCO and ICOMOS

The existing UNESCO and ICOMOS (*International Charter for the Conservation and Restoration of Monuments and Sites*, Venice Charter), recommendations recognise the importance of historic areas in modern societies and have identified a number of specific threats to the conservation of historic areas within the cities, and provided following general principles, policies, guidelines and strategies to meet such challenges.

1. Our time is witness to the biggest human migration in history: urban areas now shelter more than half of humanity. Urban areas are increasingly important as engines of growth and as centres of innovation and creativity; they provide opportunities for employment and education and respond to people's evolving needs and aspirations.
2. Rapid and uncontrolled urbanization, however, can result in a drastic deterioration of urban environmental quality. This may be due to excessive building density, standardized and monotonous buildings, loss of public space and amenities, inadequate infrastructure, debilitating poverty, social isolation, and an increasing risk of climate related disasters.
3. Urban heritage, including its tangible and intangible components, constitutes a key resource in enhancing the liveability of urban areas and sustaining productivity, in a changing global environment. As the future of humanity hinges on an effective management of resources, conservation becomes a strategy to achieve balanced urban growth and quality of life.

4. In the course of the past half century, urban heritage conservation has emerged as an important sector of public policy worldwide. It is a response to the need to preserve shared values and to benefit from the legacy of history. However, the shift from an emphasis on architectural monuments primarily towards a broader recognition of the importance of social, economic and cultural processes in the conservation of urban values, matched by a drive to adapt the existing policies and to create new tools to address this vision, has not yet reached its full potential.
5. This Recommendation addresses the need to better frame urban heritage conservation strategies within the larger goals of overall sustainable development, in order to support public and private actions aimed at preserving and enhancing the quality of the human environment. It suggests a landscape approach for identifying, conserving and managing historic areas within their broader urban contexts, by considering the inter-relationships of their physical forms, their spatial organization and connection, their natural features and settings, and their social and cultural values.
6. This approach addresses the policy and management concerns of a variety of stakeholders, including local, national, international, public and private actors in the urban development process.
7. This Recommendation builds upon the four previous UNESCO Recommendations related to heritage preservation, recognizing the importance and the validity of their concepts and principles in the history and practice of conservation. In addition, modern conservation Conventions and Charters address the many dimensions of cultural and natural heritage and constitute the foundations for this Recommendation.
8. Encourage scientific research on specific aspects of the Historic Urban Landscape Approach, including Integrated Heritage Legislation; Urban Heritage and Integrity; Compatibility of Contemporary Interventions; Limits of Acceptable Change; Strategic Assessment and Heritage Impact Assessment; Modern Planning & Design and Traditional Knowledge; Creativity and Making Heritage; Disaster Reduction and Adaptation; Private Sector Involvement; Documentation, Visualization and Presentation, to name but a few.

CONSERVATION PRINCIPLES AS LAID BY ASI

The conservation of monuments, archaeological sites and remains constitutes all necessary actions or interventions within and around a monument which are undertaken, as and when deemed necessary, in order to:

(a) prolong its life and existence; (b) prevent its damage and deterioration; (c) minimise the impact of external

agents of decay (natural and human induced) on its setting, structure and material; and (d) prepare it for natural or human induced disasters.

1. For the sake of the National Conservation Policy, limiting itself to the monuments and archaeological sites protected by the Archaeological Survey of India, the term “Monument” mentioned in the Policy shall connote “The Ancient Monuments and Archaeological Sites and Remains” as defined in Section 2 (a) and 2 (d) of the Ancient Monuments, Archaeological Sites and Remains (Amendment and Validation) Act, 2010 unless specified otherwise.
2. “Monuments” comprise a vast array of human-built edifices, either standing or underground or still buried, and these reflect tangible manifestation of India’s rich past. Monuments include archaeological sites and mounds, cave shelters, rock-cut temples, monoliths, sculptures and bas-relief panels, underground structures and architectural heritage representing various categories, e.g., religious, palatial, residential, defensive, funerary, civic, institutional, landscapes, etc. The monuments may be ‘functional’ or ‘non-functional’ depending upon whether or not these are functioning as per their original intended use.
3. “Monuments” were often built as part of a wider urban or natural context / setting and not built in isolation. Thus, monuments should be conceived as inseparable part of their immediate context or setting.
4. Monuments reflect myriad applications of building materials, such as, mud, wood, stone, brick, lime, metal, glass, etc., or composite material application, used under different construction techniques, often representing different architectural styles and styles of ornamentation (structural and applied), reflecting influences from other regions and diverse cultures due to cultural interactions in the past millennia. There are considerable regional and local variations in monuments in terms of materials, styles and techniques also due to influence of vernacular (indigenous) architecture.
5. All Monuments, once declared nationally important, irrespective of their living or non-living status, transcend their original function and should be valued and conserved in a spirit of being exemplars of past cultures and represent exemplary human creativity, building crafts tradition, patronization, and architectural and/or artistic and/or engineering accomplishments. These monuments also serve as tangible manifestation of historical and cultural events and developments of our past that spreads over several millennia.
6. All monuments that are declared nationally important are deemed to have high value / significance – archaeological (including architectural, artistic and engineering), historical (including events and association), cultural (including religious and intangible) and ecological. Monuments can have either a single or a combination of these values which contribute to their importance at the national level.

7. Disaster Management Plan should be made as an important pre-requisite of the Conservation Plan for a monument. It would be useful if vulnerability assessment of each monument also becomes a part of the ASI database.

8. Monuments and their structural members (material, construction technique, jointing, etc.) should be ably assessed to determine their behaviour during and against disasters. Should there be a need for necessary minimum retrofitting of a monument, this may have to be carried out so as to provide sufficient consolidation to the monument which will mitigate its possible impact during disasters.

MASTER PLAN 2035 AND HERITAGE CONSERVATION STRATEGIES OF SRINAGAR CITY

Heritage protection and conservation at the national level is undertaken by the Archaeological Survey of India and at the state level by Directorate of Archives, Archaeology and Museums, Government of Jammu and Kashmir. There are 20 nationally protected monuments/ buildings of historic and architectural significance falling in the local planning area, among which 13 are located in Srinagar. Similarly, the Department of Archives, Archaeology and Museums, Kashmir has listed 10 monuments in the local planning area with 09 of them located in Srinagar district only. Besides, 09 sites stand notified as Heritage Sites under the provisions of Jammu and Kashmir Heritage (Conservation and Preservation) Act 2010.

The Ancient Monuments and Archaeological Sites and Remains Act (Amendment and Validation of 2010) stipulates need for development guidelines in a 300 metre buffer around ASI protected monuments and the state act known as Jammu and Kashmir Ancient Monuments Preservation Amendment Act, *Samvat*2010 specifies a 100 metre buffer area around state protected monuments.

The city of Srinagar praised for its beauty has rich resources both natural and cultural (tangible and intangible). Like most of the medieval settlements along river banks, the evolution and expansion of Srinagar was centred on the meandering course of river Jhelum. The river served not only as a principal spine of transportation but also as the centre of social and cultural life of the inhabitants. The daily life of the citizens revolved around the river and the numerous water channels linked to it. The labyrinthine streets and alleys are similar to host of medieval cities scattered around the world. Over the course of history, around the 19th century, the city got organized into *Mohallas/neighbourhoods* based on occupations. Similarly clan or family based Mohallas also grew in the core area. As more and more members of the family became associated with traditional crafts and skills, *Mohallas* developed as a close-knit community. Historic environment is important to society as a whole or a community within it. These areas merit recognition and conditions for enhancement while ensuring protection of their

inherent values. The aim of this section is to establish direction for the protection of heritage resources in historic areas by legislation, conservation and further enhancement through compatible development.

The Revised Master Plan provides information on historic buildings, gardens and also buildings and sites of cultural and religious significance, the current initiatives, of both government and non-government bodies to protect, conserve and integrate them into the urban environment and further ways of enabling the need through statutory framework of planning and guidance. It is well recognised that conservation of heritage buildings and sites, and provision of improved infrastructure in historic areas promote tourism development which in turn leads to enhancement of livelihood opportunities for local communities, and hence economic development. A fundamental step towards heritage conservation and improvement of historic areas requires mapping of heritage—buildings, open spaces, mapping of use of public/community spaces (such as ghats along the rivers, gardens) and also identification of local artisans and traditional markets etc.

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Building and sites are recognised as of significance based on the following values:

- Historical: connected with past events, personalities or historical narrative
- Archaeological
- Architectural
- Aesthetic: beauty, harmony Cultural / Social: association, a sense of identity
- Spiritual: understanding, enlightenment
- Traditional: uniqueness

CULTURAL HERITAGE POLICY IN THE REVISED MASTER PLAN-2035

The Master Plan organizes the process of urbanization around four structuring elements and five integrators. Structuring elements are the measures that constitute the permanent framework of the City structural water, road, and public transportation networks and Poles of Centralities. While integrators constitute the urban fabric that permeates and houses activities for citizens, housing, social facilities, green areas, public spaces and spaces of commerce, services, and industry. It is made up of social equipment installations for the public and private health services, education, culture, sports, leisure and recreation, catering and security. Thus, the material heritage, which does constitute a permanent framework of the city, is also among the integrative elements, since the policy is structured with an emphasis on maintenance, expansion and construction of new social facilities, focusing on the cultural uses and not the proper preservation. The Master Plan 2035,

- i. Identifies significant cultural heritage resource for protection and conservation
- ii. Recommends planning mechanisms for integrated conservation and area development around heritage sites.
- iii. Recommends financial incentive schemes to be provided by the government to enable and encourage conservation of heritage buildings through innovative Public Private Partnership models to achieve community engagement and tools of development such as Transfer of Development Rights.
- iv. Recommends technical assistance be provided for heritage owners.
- v. Recommends improvement and enhancement of social infrastructure and public spaces in the down town area.
- vi. Recommends participatory approach for planning in the historic areas.
- vii. Recommends improved disaster risk responsive infrastructure in the inner city (earthquake, fire and flooding)
- viii. Recommends enhancement of livelihood opportunities in the historic areas more specifically related to traditional skills such as crafts and entrepreneurship

MULTI-TIERED RECOGNITION OF HERITAGE BUILDINGS AND SITES:

As mentioned above, heritage buildings can be categorized as under:

- a) Monuments that are notified under ASI or those State Government under the Ancient Monuments Preservation (Amendment) Act, 2010.
- b) Heritage sites notified under the Jammu and Kashmir Heritage Conservation and Preservation Act, 2010.

- c) Monuments/ religious buildings that are under the management of different religious Trusts such as Waqf Board, Gurudwaras, temple trust etc.
- d) INTACH, J&K Chapter's listing of heritage monuments ; and
- e) Mughal Gardens in the tentative list of Government of India for inclusion in UNESCO World heritage sites.
- f) Floating Gardens of Dal Lake

On the basis of the historic layers of the city, the master plan has delineated the core city into two major zones:

Core I: This zone has developed mainly during the period of Sultans and also has footprint of the buildings of earlier historic period of *Parvarasen II*. This is mainly on both sides of the River Jhelum extending upto *Nowhattain* the east and upto *Sunri Khulin* the west containing the most important historic built heritage of the city, and as such needs to be preserved on top priority.

Core II: This part of the core city has mostly developed during Mughal period and *Pathan* and *Dogra* periods. The walled city—*Nagar Nagar (Qilla and Kalai)* — of the Mughal era and the fort are central part of core II.

EVALUATION OF CONSERVATION STRATEGIES

Factors Deteriorating Heritage Buildings

The existence of heritage in our environment has indeed provoked the belief that people came from somewhere and this offers the people the self-confidence to face the future. Heritage largely defines the identity of a society and it is passed down from one generation to another. In order to pass on to future generations what is currently identified as being of cultural significance today, we must imbibe good conservation practices especially for the heritage buildings in order to prevent them from deterioration and extend the life and basic functions of these buildings. The heritage buildings constructed in the past that have high historical, architectural, spiritual, social, political and economic values. Similarly heritage buildings are highly valuable and informative in terms of socio-cultural, socio-political, socio-economical and even technological activities of a specific society or group of individual Heritage buildings differ from modern buildings in the sense that they are anticipated to last permanently. Also heritage buildings are buildings that for various factors society has decided that they shall be preserved for as long as possible. Heritage buildings are seriously threatened by environmental agencies such as moisture, intense solar radiation and prevailing winds which change their physical attributes. The major effects of these environmental agencies include discoloration, abrasion, cracks, stains and fungal growth. Apart from

exposure to weather, biochemical agencies also hasten the deterioration of heritage buildings tremendously. The two major factors responsible for the deterioration of heritage buildings.

(i) Natural Factors:

• Flood • Biological Factors • Moisture • Rainstorm • Ground salts and water • Windstorm • Air Pollutant • Solar Radiation • Temperature • Vibration

(ii) Social Factors: • Fire • Urban Development • Vandalism

Floods: Floods can cause massive damage where heritage buildings are being destroyed by nature's water pressure. Though some heritage buildings might dry out, yet the moisture remaining within the floors, walls and roof may cause serious mold problems that will eventually wear the building away and create health dangers. Example: In July 2009 the world heritage site of Konark Sun temple was knee-deep in water as flash floods triggered by heavy rainfall in Orissa.

Biological Factors: Biological agencies such as mosses, fungus, algae, and insects affect construction materials like timber, bricks, stucco etc. Biological agencies attack generally wet timber that has over 20% moisture contents. Wet timber decomposes in damp condition, and once germination occurred (at temperature 20 degree C and moisture content above 20%) it enters cracks and spreads fast making the timber to loose cellulose, thereby losing its strength and shape which results in cracks, shrinkages and loose fittings.

Moisture: Moisture is regarded as a key agent causing gradual deterioration of heritage buildings. It can be in solid, liquid or vapour form and it is always present in the atmosphere. When the surface temperature falls, condensation occurs and this can cause severe damages to heritage buildings. Water frozen in the pores of building materials like timber, concrete and bricks can cause spalling of surface, cracking or even disintegration. Ground salts and water Soluble salts are a principal agent of decay in porous building materials and a source of great frustration to those involved in the conservation of historic buildings. The behaviour of salts may seem unpredictable since they can remain dormant for long periods and then suddenly become active causing damage and disfiguring historic fabric. In other cases the action of salts is progressive, weakening surfaces on a microscopic level over decades and centuries, causing natural erosion of the kind that would occur to stone in a quarry face. In 1932 Schaffer described the problem in his authoritative work *The Weathering of Natural Building Stones* and his description remains the most comprehensive source on the subject, outlining all the essential facts, the salts typically found and the mechanisms of crystallisation and decay.

Ground water table and salinity i.e. higher salt loads on building materials, for example due to capillary rising damp from the soil. The higher salt load may lead to faster decay of heritage building materials. Longer dry periods and penetration of salt water via rivers and groundwater; both increasing and decreasing ground water tables. And increasing salt concentration in ground water.

Windstorm: Wind primarily causes loading and mechanical damage to structures and materials. Windstorm damaged roofs was quiet often recorded in the past at is still as a major threat to historical structures. Most of the damage caused by the strong winds concerned the roof covering. Wooden shingles were much more resistant than for example ceramic of slate tiles.

Air Pollution: One of the more destructive forms of pollution is acid rain. Acid rain occurs when fossil fuel emissions containing sulphur dioxide combine with moisture in the air to form acidic precipitation. When acid rain falls on historical monuments of limestone or marble, a chemical reaction takes place which has a corrosive effect on these structures. The reaction dissolves the material, leading to permanent damage.

Solar Radiation: At an atomic level, when sunlight falls on an object, the high energy provided by this radiation excites electrons, in some cases causing them to be displaced from bonds between atoms, particularly in organic compounds. This process can cause material to deteriorate and colours to fade. Objects also heat up causing their materials to expand and contract, often at different rates to each other. The differential movement can lead to stress resulting in damage to the structure of rigid materials. They can also dry out, again causing differential movement as well as cracking and crazing of some surfaces. Temperature Changes of the temperature are also relevant when assessing the consequences of thermal expansion and contraction – such as stresses within materials when changes of size are restrained and strains imposed on jointing materials when components are free to change size.

Vibrations: Vibrations surround us, for nature provides its own vibration sources such as earthquakes, wind and ocean waves. With the advent of the technological era, vibration sources have multiplied and have become a concern to preserve historic structures. A number of common vibration sources (including road and rail traffic, sonic boom, construction vibrations, blasting and earthquakes).

Urban Development or Planning: Large urban scale development has continued to threaten the existence of heritage buildings in the region for a long time. Many heritage buildings are being demolished to pave way for the construction of wider roads, schools, hospitals, shopping malls and parking. Some of these buildings, especially

those located in the central business district, have been under threats of demolition from the public and private developers seeking more lucrative ventures only.

Traffic Vibrations: Vibrations arising from road and rail traffic and its effect on historic buildings have become a subject of concern in recent decades. The effects of traffic vibrations on buildings, can be conveniently divided into three components: source, transmission path and receiver. Source: Rolling wheels on an elastic or imperfect contact material generate waves that then propagate downward and outward. The principal variables that effect vibration amplitudes are vehicle speed and weight, type of vehicle suspension, roughness of the rolling surface, and the stiffness of the wearing surface and sub-base.

Transmission: Waves generated at the source propagate outward through the ground. They are attenuated in the soil over distance and by material damping effect. Soft and saturated soils transmit vibrations more readily than sandy, dry ones. While rock readily transmits vibrations, the small amplitudes generated and the high frequencies of the propagated waves usually pose little danger to a building's integrity.

Receiver: After vibrations enter the building through the foundations, they may amplify by factors of from 2 to 5 in propagating to higher storey's.

- (a) **Sonic Boom:** Sonic boom (or sonic bang as it is called) Results from supersonic travel of aircraft. This damages the historical structures especially to brittle components, such as plaster or glass, particularly at corners or cut-outs, where stress raisers exist. (Stress raisers: A mechanical defect, such as a hole in materials which concentrates stress in the area and increases the risk of failure of material at that site.
- (b) **Blasting Vibrations:** Generally of higher magnitude, of short duration, of higher frequency and of rapidly decaying amplitude. Vibrations from blasting are a fairly common disturbance for historic buildings since blasting is often employed on excavations for neighbouring building foundations, roads, underground services and subways.

Seismic Effects on Historic Buildings: In areas where seismic disturbances pose a potential threat, the vulnerability of historical buildings should not be overlooked. Historic buildings are frequently constructed of brickwork, stone or adobe, materials known to be vulnerable to seismic disturbances since they do not deform easily without rupturing.

Fire: Fire has long been enemy of heritage buildings. Uncontrolled fire can cause an entire destruction of heritage buildings and its contents in only a few hours and its major effect is the potential loss of authenticity. Although

the destroyed parts of the buildings can be replicated, the loss of the original historic fabric takes away from the building the cultural significance which makes it unique and important.

Vandalism: It is the behaviour attributed originally to the Vandals, in respect of culture: ruthless destruction or spoiling of anything beautiful or venerable. The term also includes criminal damage such as graffiti and defacement directed towards any property without permission of the owner.

METHODOLOGY FOR EVALUATING CONSERVATION STRATEGIES

Before commencing the actual fieldwork, we gathered basic information from various sources including gazetteers, history books, and several other specialized books on the art and cultural books of the Srinagar city. This work could not be done only in the libraries of the universities and other institutions of the central government, the state government and private individuals or trusts. The museum established by the state government provided interesting information. In a given area, local experts, professionals and scholars also provided the required guidance and help. We also consulted the heads of the Departments of Srinagar Municipal Authority, Srinagar Development Authority, Urban Development Authority, Director Museums, Archives and Archaeology, In charge at ASI office circle Srinagar.

FIELD WORK

To scan the heritage properties and recording information for each property in the prescribed format keeping in view the planning and conservation, we started the field work. This comprises of physically inspecting the sites as well as meeting local people, talking to other residents and local ward or panchayat members, and knowledgeable residents and representatives of institutions.

By physically inspecting we gathered facts such as physical characteristics of the heritage monuments and sites, the date of construction, style of construction, design characteristics, etc. By conducting a dialogue with the residents, we determined the changes to the heritage sites over time, historic function and activities, association with events and persons, measures taken for preservation and conservation and the role of the Heritage in local, regional or national socio-cultural history.

Photography is also an important component for the project work. A photograph freezes the building and its setting to the time when it is taken. In this context, we took photographs to constitute a very important record and

evidences in the project to show the changes that have occurred over time to the building and, in particular, to its embellishments.

GENERAL PRINCIPLES OF CONSERVATION

1. Since the built heritage is one of the main channels through which we can understand the lives, aspirations and achievements of our ancestors, it is essential that as wide a range of types and ages of monuments as possible is preserved. So far as architectural monuments are concerned, it is true that higher status monuments were usually more permanently constructed and are therefore now generally better preserved than their more humble counterparts. Because of this, the picture they present of the past is an inevitably distorted one in some respects. Nevertheless, as methods of understanding evidence are increasingly refined, it is likely that we shall be able to make fuller sense of the more ephemeral types. This makes it particularly important that works of conservation involve minimal disturbance to both the monuments themselves and to their wider contexts.

2. Monuments are more than just the sum of their constituent parts. Many have important historical, cultural or emotional associations that give them a particular significance in the life of the nation, or of the local community within which they are set. Many also have outstanding landscape or picturesque values. In conserving them it is therefore essential that nothing is done that might impair these qualities.

MEASURES TO BE TAKEN FOR ADDRESSING THE ABOVE IDENTIFIED PROBLEMS

After the physical assessment of the urban heritage sites of the Srinagar city it is clear that the sites and monuments are in depilated condition. The major effects can be seen in the structures of stones and bricks in the form of discoloration, abrasions, cracks, stains and fungal growth and vegetation growth. Bulging - indicates the wall has moved, Cracking- indicates movement within the wall, Straining- indicates excessive dampness, Crumbling- indicates moisture penetration due to poor brick or to sand-blasting, Paint Blistering- indicates moisture trapped behind paint, Mortar Cracking - indicates cement mortar is too hard and is popping out in freeze-thaw cycles etc. are some of the measure problems faced by the culturally precious monuments in the Srinagar city. Brick and stone structures have deteriorated for many reasons, the key ones include excessive moisture in the masonry freezing and thawing in winter, water in the walls rusting out masonry ties, improper cleaning, such as sandblasting and differential expansion, leading to cracking.

The heritage sites which are affected and are about to vanish by the above factors include the Hari Parbat fort, Kathi Darwaza, Sangeen Darwaza, Shergarhi fort, Pari Mahal, Tomb of Budshah's mother and Ganpathyar temple.

In case of wooden heritage buildings like Khanqahi Shahi Hamdan, Khanqahi Mualla, Madena Shah saeb hospice, Makhdoomsaeb, etc., these structures need extra care as timber is a more perishable material than masonry. These monuments lack sanitation and drainage facilities.

The Heritage sites including Burzohom, Harwan, Mughal gardens etc. face the threat of illegal land occupation and vandalism of historic remnants.

Following measures should be taken to conserve these heritage structures:

1. TREATMENT OF MASONRY WALLS

Masonry consists of stone, brick or concrete blocks bonded with mortar. Mortar is a mixture of lime, sand and water and, more recently, cement. Masonry, when properly constructed and well maintained, will last for centuries. Masonry is the main surviving structural element of most architectural monuments, and the aim must be to preserve all that has survived. Where there is no alternative to the replacement of stonework, the new stone should match the stone to be replaced as far as possible in its geological origins, its texture, its colour, its weathering characteristics and its porosity. To achieve this it may be necessary to seek expert geological advice. Consolidating rubble masonry presents a different range of problems from treating ashlar. When the rubble consists of a combination of larger stones with small and shallowly-set stones known as pinning between them, removal of decayed mortar can often dislodge some of those pinning. In such cases, if the character and pattern of the masonry is not to be irreversibly modified, it is essential that the wall is treated as a series of small areas, and that detailed record photographs are taken of each area before the work starts so that any dislodged stones or pinning can be reinstated in their precise original position. Where walls are found to have been bonded with clay rather than lime mortar, every effort should be made to stabilise the wall with clay of a similar character to that originally employed. With clay-bonded walls it is particularly important to ensure that the wall head is properly protected to prevent the continued intake of water.

The inherent stability of many monuments appears to be threatened by broken or missing masonry. In fact the corbelling effect of masonry may mean in some cases that the instability is more apparent than Real, but where there is an identifiable risk of collapse it may be appropriate to provide discreet support without imitating the historic masonry and thus confusing the evidence. In some cases it may be acceptable to achieve this through the insertion of modern piers or buttresses of masonry on as small a scale as is consistent with providing support. Such piers should have the date of their construction incised at some point and should be differentiated from the surrounding masonry; in the case of small piers there may be a case for rendering them over with the same lime

mixture as that used for bonding the masonry to make clear that they are not part of the historic structure. Since piers or buttresses of this type are always likely to be visually intrusive. In some cases, masonry walling left at risk by broken or missing masonry may be supported by strategically placed non-ferrous or stainless steel metal bars. This can be particularly effective in the case of broken lintels or missing mullions and form pieces in window tracery it can also be a useful way of taking the weight of masonry that has been left unsupported by the loss of lower facing stones. Where this approach is adopted, the bars must be set into joints rather than into stones, and every effort must be made to insert the bars without having to widen the joints, which may mean giving the ends of the bars a flattened fish-tail form.

2. TREATMENT OF MORTAR

Lime mortar was the most commonly used bonding agent of architectural monuments, and it is as much a part of the historic fabric as the stone which usually forms its main material. In some cases the mortar may in fact be ultimately more informative on the date of the monument than the stone, and perhaps also on the techniques employed in its construction. It is therefore important to preserve in place as much as possible of the mortar used in the successive phases of a monument's history. As with stone, mortar should only be replaced where this is strictly essential. However, as a more perishable material, it is almost inevitable that the structural stability of a monument will call for the renewal of some areas of mortar, particularly in areas close to exposed wall heads. Where either decayed original mortar or modern cement mortar have to be replaced, every effort should be made to ensure that the new mix is compatible with the original mortar of that part of the monument in its composition, texture and appearance, whilst accepting that the new work should nevertheless be distinguishable to expert scrutiny. To achieve this it will usually be necessary for the original mortar to be analysed, and for suitable lime and aggregate to be identified. It will probably also be advisable to have sample panels of re-pointing prepared in order to find the best visual and textural match.

3. TREATMENT OF PLASTERWORK

Internal plasterwork is related to external lime finishes in both composition and function, though internal plaster tended to be more highly finished. This finish usually results from the application of at least two layers: a rougher first coat applied directly to the masonry wall and a finer finishing coat. In considering, what is the best way to deal with surviving plaster, there is the complication that the majority of scheduled monuments are now roofless, and a finish that was designed for maintenance within protected environments is now more often exposed to the elements. In most cases, however, the same considerations should be applied to the treatment of plaster as for external renders: where it survives every effort should be made to retain it, but where it has been lost it is

preferable not to replace it. There are broken edges of plaster there is an increased risk of water penetration and of continued erosion where the plaster's adhesion to the wall is less secure. In such cases consideration should be given to closing off the edges of the plaster with a chamfered fillet of plaster of a similar composition and colour.

4. TREATMENT OF TIMBERWORK

Timber was used more widely in medieval buildings and is often appreciated. In addition to its generally understood role as the main material for roof framing, floor construction, doors and windows, it was used widely as a roof covering, as a wall finish, as a support for plaster finishes, as the framing and cladding for enclosed galleries that were constructed around and between the masonry cores of some buildings, and for fixed furnishings within buildings. But it is also the case that, at even buildings of the highest status, it could be a principal structural material until at least the later middle ages, and this continued to be the case for lower status buildings for an even longer period.

By its nature, however, timber is a more perishable material than masonry, and at roofless monuments it has usually survived *in situ* to a very limited extent. Nevertheless, under appropriate conditions, it may have survived more completely below the raised ground levels that have built-up around collapsing monuments, and much evidence may survive within the archaeological strata associated with a monument. These wooden monuments need to be painted to save wood from decaying. Where surviving roof timbers are now of inadequate strength for their function, it is preferable to provide secondary support by discreetly introducing modern timbers, metalwork or other modern high strength materials alongside the original timbers. Every effort should be made to avoid cutting new joints into existing timbers in doing so.

5. TREATMENT OF HISTORIC PAINTED DECORATION

Painted decoration was very common in medieval and early modern buildings, on walls (both internally and externally), on vaults and ceilings on partitions, and on internal fixtures and furnishings. At its simplest it might be no more than a series of lines in imitation of masonry jointing, or a linear accentuation of architectural features, while at the other extreme it could involve images and scenes of great iconographic complexity. Most schemes of painted decoration likely to be encountered at monuments used a range of earth-based and organic pigments mixed with water. When the painting was on plaster it was more frequently on dry rather than wet plaster. Painting of this kind is particularly susceptible to the natural processes of decay, and the best evidence for the strength of the original colouring is often on fragments found through excavation. Where any *in situ* evidence for painting survives, whether on plaster, timber, masonry or any other material, every effort should be made to

preserve it as it has come down to us. However, this will almost certainly require highly qualified technical intervention. In the majority of cases any work on painted decoration should be aimed at conserving what is there, with no attempt to restore what has been lost. If it is felt justifiable to provide a fuller picture of what can be determined about the original designs, this should be done by secondary means, such as reconstruction sketches.

6. TREATMENT OF FLOORS AND PAVING

The finishes of ground and floor levels that were provided at the time of a monument's use and occupation are an important integral part of the historic fabric. They were, however, particularly susceptible to wear, and are likely to have been replaced at intervals in monuments that had a long active life; where they do survive, they may be in a very fragile state. Where sensitive internal floor finishes within a protected environment are subject to foot traffic and therefore require protection, it may be advisable to place a false floor or walkway over them, though this has to be done in ways which place no pressure on the historic surfaces themselves. As with the preservation of historic walling, it is generally unacceptable to replace missing parts of paving or floor finishes with modern replicas of what has been lost. The effects of continuing wear and weathering will eventually make it difficult to distinguish between what is historic and what is modern, with consequent compromise of the evidential value of the original.

7. TREATMENT OF EARTHWORKS ASSOCIATED WITH ARCHITECTURAL MONUMENTS

Many architectural monuments have associated earthworks (fig. 38). Some of these may survive from the earlier occupation of the site, while others may provide evidence for the history and use of the site after the architectural element of the monument itself had passed out of use. At their most minimal, earthworks may simply be the result of the ground disturbances inevitably associated with the initial construction and subsequent remodelling of the monument itself, while others may be the result of a long and complex sequence of interventions aimed at adapting the surrounding landscape to the needs of those for whom the monument had been built. But it is likely that extended occupation of any site will have had significant implications for the surrounding ground surfaces on the monument, and many earthworks will contain fragile archaeological evidence for structures of a variety of materials that were once associated with the monument. Indeed, there is such a wide range of types of earthwork that may survive in association with a monument that it is not possible to itemise them all here, but it is important that anyone contemplating works that might have an impact on the wider setting of an architectural monument should be aware of at least some of the possibilities. Amongst those that may be mentioned are: defensive ramparts; mounds left by collapsed structures; vestiges of pools and waterworks; terraces, beds and enclosures associated with different activities; and waste heaps resulting from domestic activities or industrial workings.

With earthworks the prime aim must be to preserve the existing ground profiles under vegetation which is not damaging subsurface archaeological evidence. Any excavation into those profiles, where this is deemed to be unavoidable, must be carried out under archaeologically controlled conditions. There should be no changes to those profiles, either positive or negative, that is not based on sound evidence and justified by the conservation needs of the monument. Grass growth may be beneficial as a way of inhibiting erosion of ground surfaces. If areas have to be re-seeded, however, this should be done without breaking into ground surfaces, other than by light scarification. It is important that advice should be taken on the species of grass to be planted, in order to avoid damaging any natural heritage interest of the site.

8. TREATMENT OF VEGETATION AT MONUMENTS

There are many aspects to vegetation at architectural monuments, with both positive and negative implications. Trees and plants around a monument can be an aesthetic enhancement of its setting, and few people would wish to see them removed without good reason. They can also provide a valuable habitat for wildlife. Nevertheless, in some cases their roots may be causing archaeological and structural damage, while their branches may be scraping walls. As in so many other areas, a balance has to be struck between the conservation needs of the monument on the one hand, and its aesthetic qualities and ecological value on the other. Similarly, plants growing on or around a monument can add to its picturesque appeal. Nevertheless, it is possible that the roots of such plants are causing damage to the masonry, while the weight of the plants themselves may be dislodging loosened masonry. Trees and saplings growing out of and immediately adjacent to the masonry of monuments are often harmful particularly when they are likely to grow to a great size, and they will usually have to be carefully removed. The least damaging way of doing this is usually to cut them back above the base; if they are of substantial size they should be cut down in sections that can be manually handled. Further growth should be prevented by the most appropriate means; it may be acceptable to poison the root system through the truncated base with one of the ecologically acceptable herbicides, but advice should always be sought on this. As an alternative to the use of poison, closely set copper nails hammered into the truncated base is thought to be an effective way of preventing further growth. Work on trees is generally best carried out between November and March, when there is minimal foliage.

9. PLANNING PERSPECTIVE

Widening of the existing roads under the Master Plan of the City development Plan or in the Layout Plan shall be carried out considering the existing heritage buildings (even if they are not included in a Heritage Precinct) or which may affect listed natural features areas.

Some monuments may be points of interest within a designed landscape, and consideration of the effect upon the landscape of any planting should influence decisions on the most appropriate management regime to adopt. Planting or felling trees in a designed landscape that is included in the Natural Heritage will require consent.

In certain cases, improvements to the drainage of waterlogged sites may be beneficial to their conservation, though expert advice should always be sought on this. It should be remembered, however, that drainage may have an impact on any water-logged archaeological deposits, and also on the flora and fauna of the site.

The city of Srinagar city falls under seismic zone IV and is prone to earth quakes, which can be very harmful to the heritage sites. Hence effective measures should be taken to make heritage monuments vibration resistant. The city is situated on the banks of river Jhelum and hence is affected by floods at times. Therefore, water drainage around the heritage sites is the need of hour.

Moreover, the construction of structures like shops, houses and other buildings within the prescribed buffer zone of 100 metres for state protected monuments and 200 -300 metres for national monuments have not been prevented in above mentioned cases. The heritage sites including Burzohom, Harwan and Mughal Gardens have suffered much of negligence. The Neolithic site of Burzohom is a playground and cattle rearing ground for the locals and without any fencing and not any effective measure of conservation. The Harwan Buddhist site lacks road connectivity and landscape development.

So far the Master Plan 2035 of Srinagar city is concerned, it has not yet provided the guidelines to protect and conserve the Heritage monuments and sites. It has only identified the heritage sites and have only given assurance to provide guidelines to protect the heritage according to the laws of state and union in future. On the ground the contents regarding the conservation of heritage in the Master Plan 2035 sounds same as the previous Master Plan 2015 that is a complete failure as reflected by the depleted condition of the urban heritage of the Srinagar city.

CONCLUSION

The history of the town is written in its old buildings and streets. Though a town should have new structures, it is not wise to lose the old buildings, as every building has some history related to it. The conservation cannot be the sole concern of government departments, but it has to be a coordinated effort of local authorities, architects, related professionals, private organizations and millions of individuals. The conservation strategies presented here leads to enhance the historical, architectural, cultural and aesthetic aspects of the town by giving a rebirth to the

dyeing urban heritage. The conservation measures, if taken in time will save Srinagar from losing its precious heritage from gradual but imminent destruction.

The following strategies are suggested for planning and conservation of heritage areas, buildings and precincts in the city of Srinagar:

- (i) The monuments and buildings of historical, architectural, archaeological and cultural significance need to be identified and published in the gazetteer with their historical background and cultural significance.
- (ii) The listing of buildings shall be based on the age of the building, its special value of architecture or cultural reasons or historical periods, its relevance to history, its association with well-known character or event, its value as a part a part of group of buildings and the uniqueness of the building or any object or structures fixed to the building or forming part of land and comprised within the cartilage of the building not only within the Fort Area but also within the Local Planning Area.
- (iii) The areas under conservation shall be suitably treated for landscape and as far as possible shall be utilised for social and cultural activities.
- (iv) The Planning Authority has to develop guidelines for development, re-development, additions, alterations, repairs, renovation and reuse of heritage buildings within and according to the provisions laid by various heritage conservation agencies.
- (v) Citizens need to be involved and awareness programmes need to be undertaken for effective implementation of heritage plans and programmes.
- (vi) Management Action Plan for Heritage Areas including precincts to be worked out in consultation with various stakeholders namely Srinagar Municipal Corporation and Srinagar Development Authority, ASI, Archaeological and Heritage Commissioners Officers, Town Planning and other agencies including NGOs.
- (vii) The Area delineated as Heritage Area (depicted in the map) need to develop special plans for conservation and improvement of controlled areas and alteration or demolition of any building is prohibited in the controlled conservation areas without the consent of the Planning Authority and Municipality as well. The Heritage area should be considered as Special Area and needs special treatment to conserve the heritage value for retaining the character. In order to preserve aesthetic environs around these monuments, it is necessary to declare areas surrounding these monuments as zones of special control and impose the following regulations around these monuments:

Buildings up to a height of 3.5 metres from the ground level is permissible within the distance of 100-300 meters from the premises of the monuments. Building up to inclusive of first floor or up to a height of 7 metres from

ground level whichever is less only is permissible in the area beyond 300 metres from the premises of the monuments within the fort area.

(viii) Following conservation measures and strategies are required to arrest the damage and decay in the fort heritage area: (a) The Monument has a perimeter of 3.7 km. and the conservation of the entire fort requires huge amount and time. Hence conservation of the heritage buildings can be carried out in phased manner. The heritage sites along the river Jhelum, towards that side has not been damaged much due to the inaccessibility and the presence of huge trees. As this part, first phase of conservation is to be taken up here. (b) The Kohi Maran is lined with monuments and it provides a beautiful view to the fort, if conserved. As the monuments are located on the edge of the town and are not intervened with the developments, the conservations measures can be effectively carried out. (c). The movement of local traffic is very less towards the upper side of the fort and this is an added advantage for the tourist movement and there is an ample space is available for parking. (d) The fort has two gates namely Southern Kathi Darwazate and Eastern Gate or Sangeen Darwaza, which is known only by researchers, academicians, Archaeologists etc. These Gates are to be conserved to depict the Historicity.

ix. The encroachments near the Heritage buildings need to be cleared and proper alternative arrangements are to be provided.

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