



# Part C - Strategies, Recommendation & Action Plan





## 5. STRATEGIES, RECOMMENDATIONS & ACTION PLAN

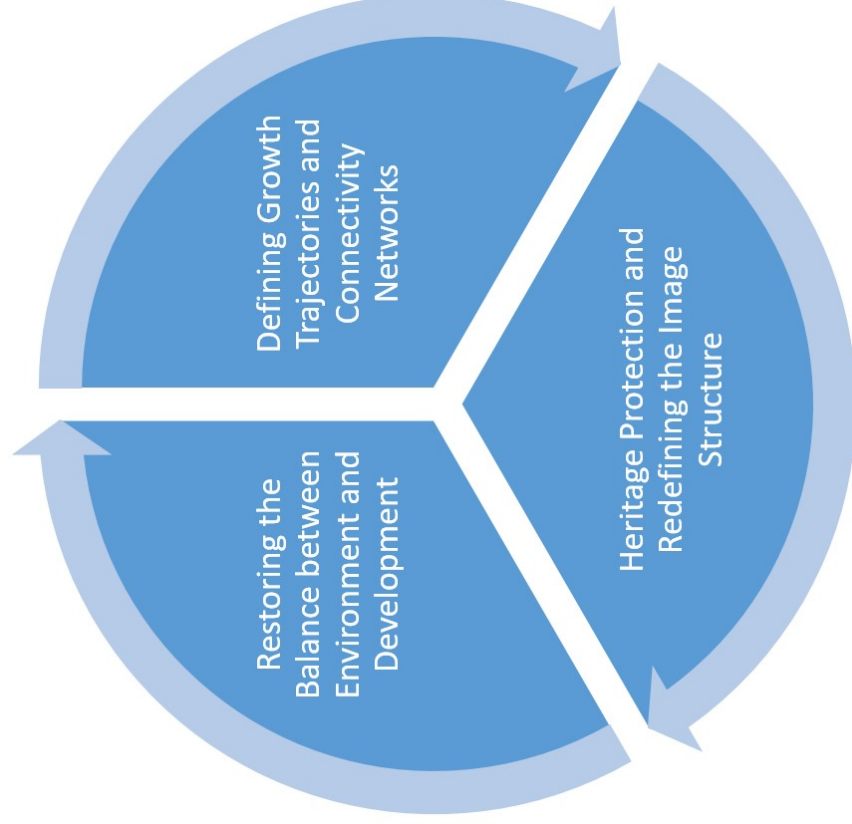
### *Vision Statement*

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***“Prosperity through environmental upgradation, heritage conservation by enhancing livelihood and revival of socio-cultural and economic linkages and promoting sustainability in sectors such as tourism, industry, agriculture, services and transportation”***

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## 5.1 Anchors of the Vision



## 5.2 Anchor 1: Restoring the balance between Environment and Development

### 5.2.1 Strategies at Regional Level

#### 5.2.1.1 Strategy 1: Resource Conservation, Protection and Augmentation:

- Reclamation of wastelands (ravines) and controlling salinity.
- Demarcation of flood plains of River Yamuna and listing permitted and non-permitted activities in flood plains.
- Improvement of water quality of River Yamuna by ensuring for actions by other states upstream of TTZ and within TTZ.
- Control of pollution that directly enters River Yamuna from and streams and tributaries (perennial and seasonal).
- Identification, listing and protection of all lakes, ponds, waterbodies in TTZ and bringing them under protection in urban and rural areas.
- Promotion of water conservation/recharging practices in rural areas.
- Regulating activities in Eco-Sensitive Zones around the Protected Areas in TTZ, Keoladeo Sanctuary, Keetham Sanctuary and Bandh Baretha Sanctuary.
- Preparation of Management Plan for Keetham sanctuary.





### **5.2.1.2 Strategy 2: Pollution Control and Waste Management**

- Setting up of new monitoring stations for air and water pollution to monitor pollution level in urban and rural areas (not all towns in TTZ have air monitoring stations and monitoring is required for large villages which are market centers or mandis.
- Control of agricultural waste burning
- Control of dust from rural area by afforestation, agroforestry, plantation along canals, river and stream banks and around water bodies.

### **5.2.1.3 Strategy 3: Infrastructural Upgradation**

Ensuring safe water supply and sanitation in rural areas as per norms proposed in RADPFI (Rural Area Development and Plan Formulation and Implementation Guidelines, Government of India, 2016).

- Improvement of sanitation and achievement of Open Defecation Free status (ODF) in rural areas.
- Upgradation of Social Infrastructure, Health, Education and Community Facilities in rural areas as per RADPFI norms, Gol, 2016.
- Upgradation of Physical Infrastructure in rural areas, Transportations, Rural Roads, Electricity, Communication as per RADPFI norms, Gol.

### **5.2.1.4 Strategy 4. Socio-economic upliftment by Promoting non-polluting**

#### **industries and eco-tourism.**

- Promotion of traditional and household industries existing in rural areas by ensuring links to market facilities.
- Promoting green energy, waste management and recycling practices in household industries.
- Green Skill Development to develop manpower for eco-tourism, monitoring pollution and enabling recycling.

### **5.2.2 Strategies at City Level**

#### **5.2.2.1 Pollution Control and Waste Management**

- Setting up of monitoring stations to record trends of air, noise and water pollution in new upcoming areas.
- Control of waste- municipal solid waste hazardous waste, bio-medical waste, e-waste, CD waste by adhering to regulation of Government of India.
- Strict implementation of dust control rules and norms.
- Environmental Impact Assessment of projects as per MoEFCC Notification and as per management of environment in TTZ emphasizing the need of sustainable





development in the light of basic principles of environmental protection viz.,  
Precautionary Approach and Polluters Pay Principle.

- Proper waste water management (convention & decentralized methods).

#### **5.2.2.2 Resource conservation, Protection and Augmentation**

- Identification of areas for water recycling and developing appropriate green cover in parks, institutional areas and green incidental open spaces.
- Propagation of indigenous, naturalized species for afforestation, roadside plantation, plantation in parks and play grounds etc.
- Air Pollution: Apportionment study recommendations to be implemented as and when available
- Propagation of clear a green energy in all sectors, residential, commercial, industrial, transport, institutional utilities etc.
- Rain Water Harvesting at building level to be impleted strictly.

Figure 5.1 Waste water treatment methods

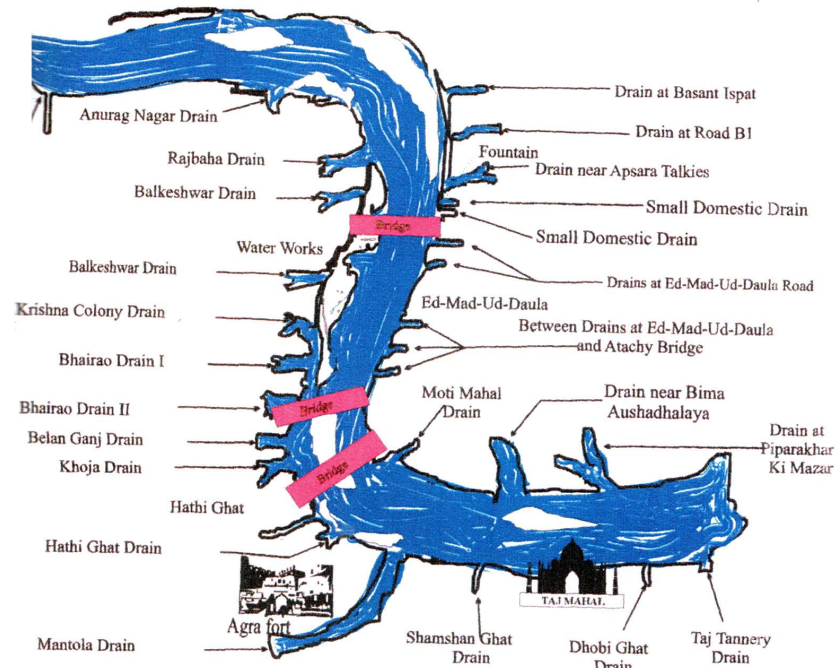
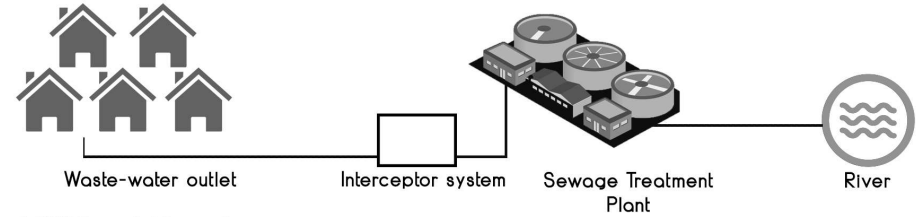
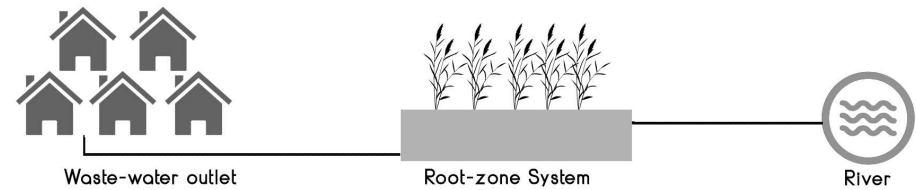


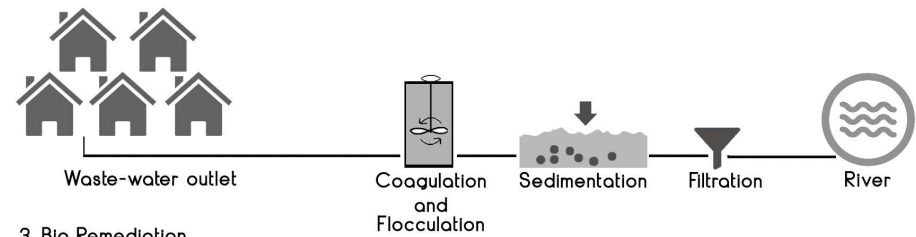
Fig. Outfall of Drains Into Yamuna  
Jain, R.K. (2007) . Impact of Agra Masterplan 2021 on Ecology,  
Environment and Heritage of Agra City



1. STP through Interceptor



2. Constructed Wetlands

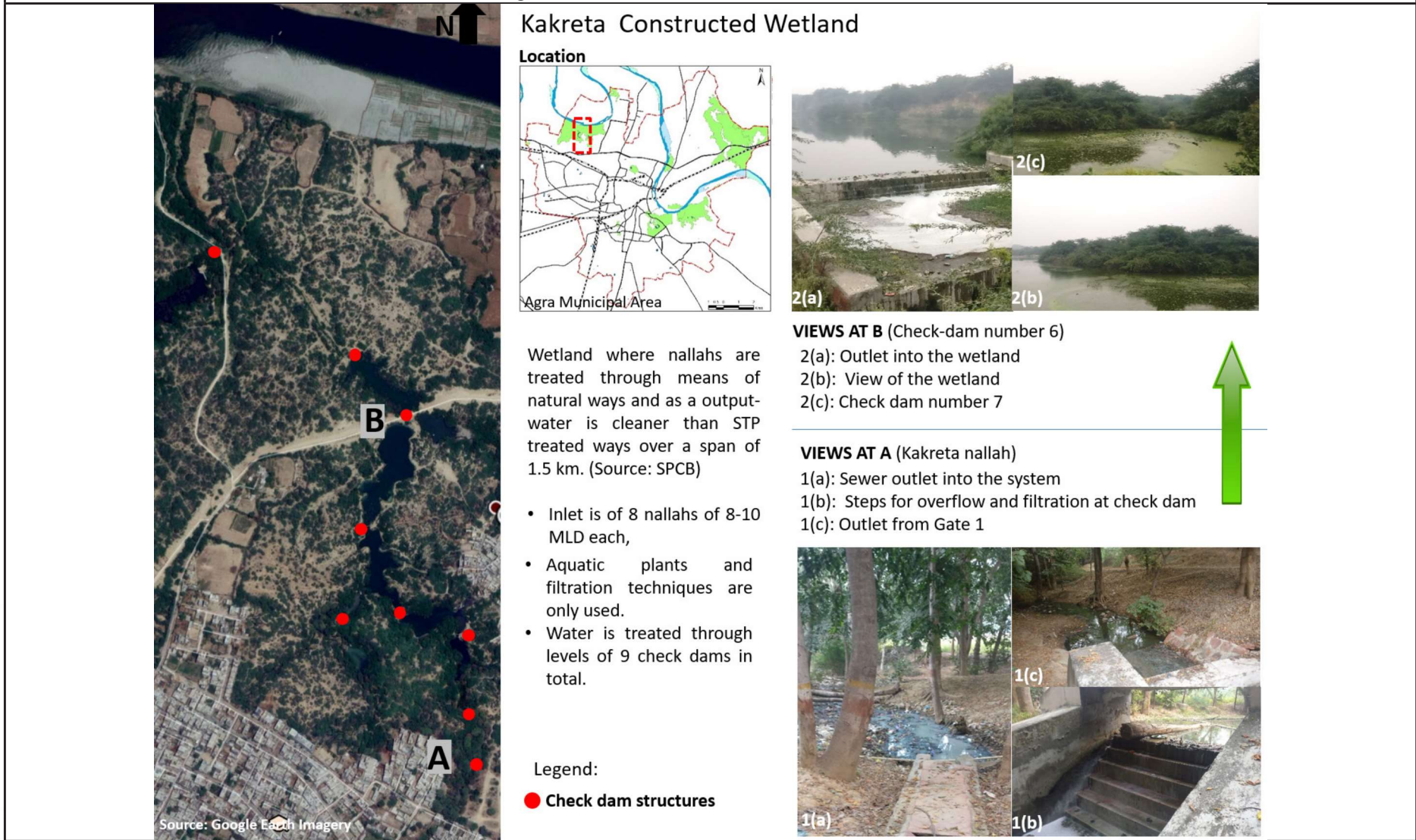


3. Bio Remediation

Fig: Solutions proposed for treatment of Wastewater

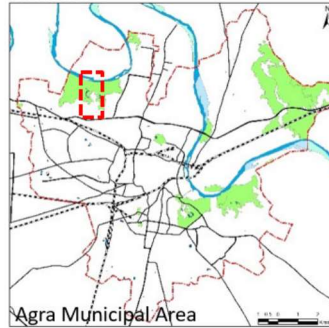


Figure 5.2 Kakreta Constructed Wetland



**Kakreta Constructed Wetland**

**Location**



Wetland where nallahs are treated through means of natural ways and as a output-water is cleaner than STP treated ways over a span of 1.5 km. (Source: SPCB)

- Inlet is of 8 nallahs of 8-10 MLD each,
- Aquatic plants and filtration techniques are only used.
- Water is treated through levels of 9 check dams in total.

Legend:

- Check dam structures



**VIEWS AT B (Check-dam number 6)**

- 2(a): Outlet into the wetland
- 2(b): View of the wetland
- 2(c): Check dam number 7

**VIEWS AT A (Kakreta nallah)**

- 1(a): Sewer outlet into the system
- 1(b): Steps for overflow and filtration at check dam
- 1(c): Outlet from Gate 1



Figure 5.3 Dayal Bagh Eco-Village

Dayal Bagh Eco-village,  
Agra

**KEY FEATURES:**

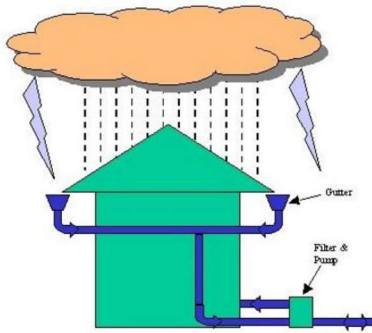
- Developing open protected areas.
- Maximizing conservation range and ecological variability of habitats.
- Developing ecologically resilient and varied landscapes to provide niche for local and migrant species.
- Establishing ecological networks through habitat protection.
- Recycling and reducing energy.
- Increasing greenery, better trash management, less use of private vehicle.



**Legend**

- ▬ Agra Municipal Boundary
- Taj\_Complex
- Yamuna river
- ▬ Canal
- ▬ railway
- Dayal-Bagh eco village

Dayal Bagh is a self-contained colony renowned for its serene environment and secular establishments, in which its inhabitants lead an active, disciplined and co-operative community life.



Source: Dayal Bagh Way of Life for Better Worldliness; D.K. Chaturvedi, Lajwanti



Table 5.1 Biodiversity Index

Sl. No.	Indicators
1	Proportion of natural areas in the city
2	Connectivity measures or ecological networks to counter fragmentation
3	Native biodiversity in built-up-areas - Bird Species
4	Change in number of native vascular plant species
5	Change in number of native bird species
6	Change in number of native butterfly species
7	Change in number of native reptile species
8	Change in number of native fresh water fishes species
9	Proportion of protected natural areas
10	Proportion of invasive alien species (as opposed to native species)
11	Regulation of quantity of water
12	Climate regulation; carbon storage and cooling effect of vegetation
13	Recreational and educational services (area of parks with natural areas and protected or secured natural areas)*/ 1000 persons)
14	Recreational and educational services (number of formal educational visits per child to parks)
15	Budget allocated to biodiversity
16	Number of biodiversity projects implemented by the city annually
17	Policy, rules and regulations - existence of local biodiversity strategy and action plan
18	Institutional capacity: number of essential biodiversity-related functionaries in the city
19	Institutional capacity: number of city or local government agencies involved in inter agency cooperation pertaining to biodiversity matters
20	Participation and partnership existence and state of formal or informal public consultation process
21	Participation and partnership number of agencies/ private companies/ ngos/ academic institutions/ international organisations with which the city is partnering in biodiversity activities, projects and programmes
22	Is biodiversity or nature awareness included in the school curriculum (e.g. biology, geography, etc.)
23	Number of outreach or public awareness events held in the city per year

Source: Singapore Biodiversity Indicators

### 5.2.2.3 Infrastructural Upgradations.

- Ensuring safe drinking water supply
- Making urban areas open defecation free
- Ensuring adequacy of Social Infrastructure (Health, Education, and Community Facilities) as per URDPFI norms 2015.
- Physical infrastructure such as electricity, street lights, to be adequate as per norms.

### 5.2.2.4 Socio-economic implement by promotion of Green Skills.

- Green Skill Development in all development sectors to enable monitoring and implementation of environmental friendly activities, as per GSDP (Green Skill





Development Programme) launched by Government of India.

### **5.2.3 Strategies at Precinct level**

#### **5.2.3.1 Resource Conservation and Protection**

- Ensuring appropriate plantation in and around Taj to protect movement from dust and humidity
- Storm water drainage to be kept free from clogging up to prevent flooding in the area.

#### **5.2.3.2 Pollution control and waste Management**

- Control of all air polluting activities in the precinct, prevention of dust, control of vehicular congestion informal cooking activity in open.
- Pollution control of the drains in the east and west of Taj Mahal, desilting, intercepting the sewage for treatment at STP.
- Waste recycling reuse, waste to energy system to be promoted.
- Conversion of crematorium to electric crematorium or only limiting cremation when wind direction is away from Taj Mahal.
- Crowd management to be within holding capacity of the Taj Mahal taking into account the time spent by each tourist.

#### **5.2.3.3 Infrastructural Up gradation**

- Water supply, Toilets, Lighting, and Dust bin to be as per norms.
- Installing of digital methods for maintenance of infrastructure.

### **5.3 Anchor 2: Defining Growth Trajectories and Connectivity Networks**

#### **5.3.1 Strategies at Regional Level**

##### **5.3.1.1 Streamlining Urban Development and Land Use Allocation Processes**

**Objective 1: To encourage and facilitate a planned development process**

**Strategy 1: To effectuate and ensure, the adherence to the planning regulations and processes laid down by the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines of 2014.**

- To prepare GIS based resource plan for TTZ - land, air, water and biotic resources.
- To prepare Master Plans and Development Plans for the Municipal Corporation boundary and the planning boundary for all class I, II and III cities and towns in TTZ.
- To integrate Master Plans (at the Regional level) with the sectoral plans including,



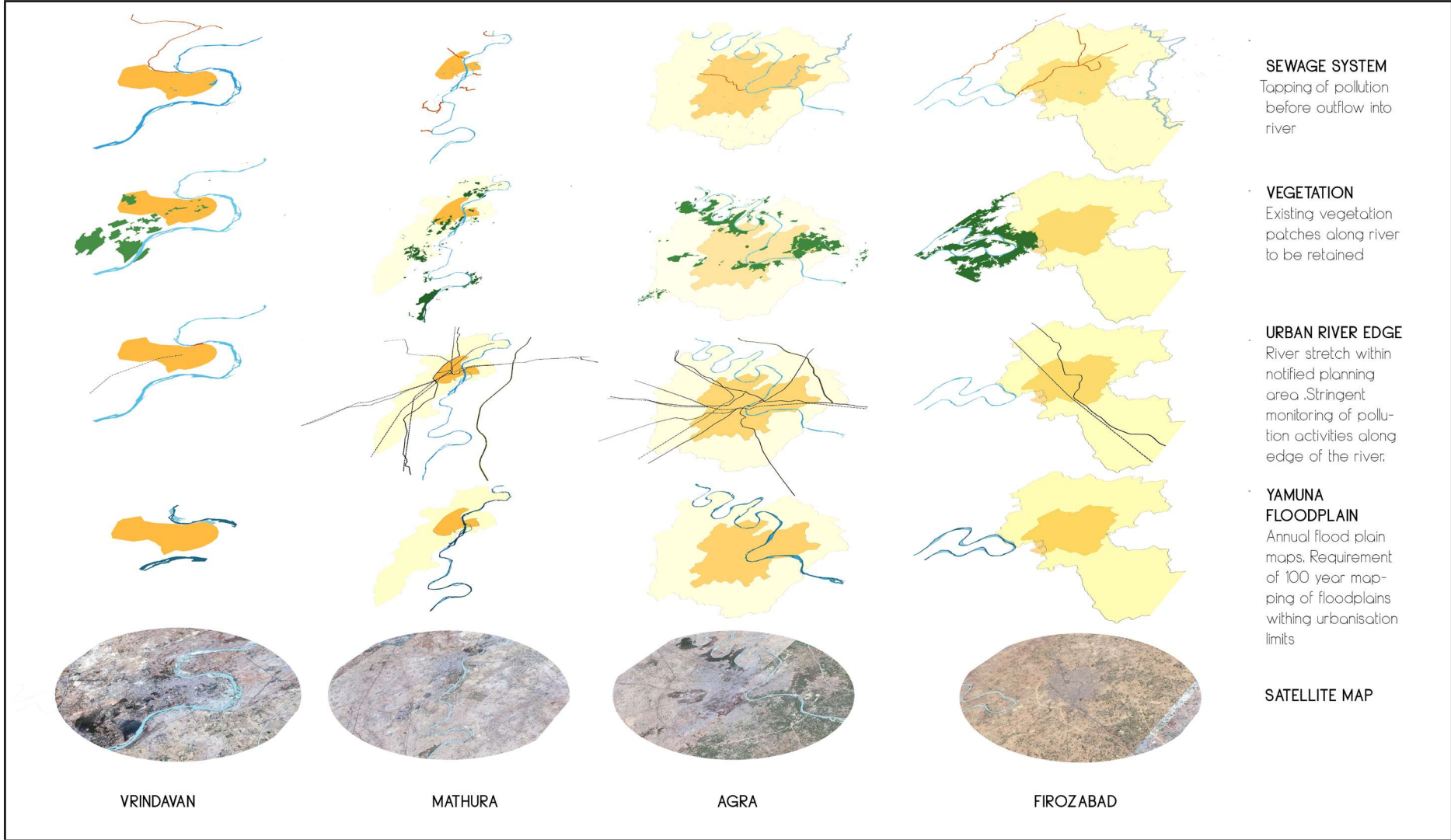


- transportation, infrastructure, MSME schemes, etc.
- To review, update and amend the City Level Master Plans nearing their 20-year period, in coordination with the proposed TTZ Regional Plan.
  - To set up New Development Control Regulations for historic core of Vrindavan, Bharatpur, Mathura, Agra, Firozabad, etc., w.r.t. facade control, height and plinth control in TTZ.
  - To initiate Capacity building in all Urban Local Bodies

**Strategy 2: To ensure that the Regional Plans, Master Plans, Land use Plans, Zoning ordinances and other related planning documents reflect the visions and mandates of TTZ.**

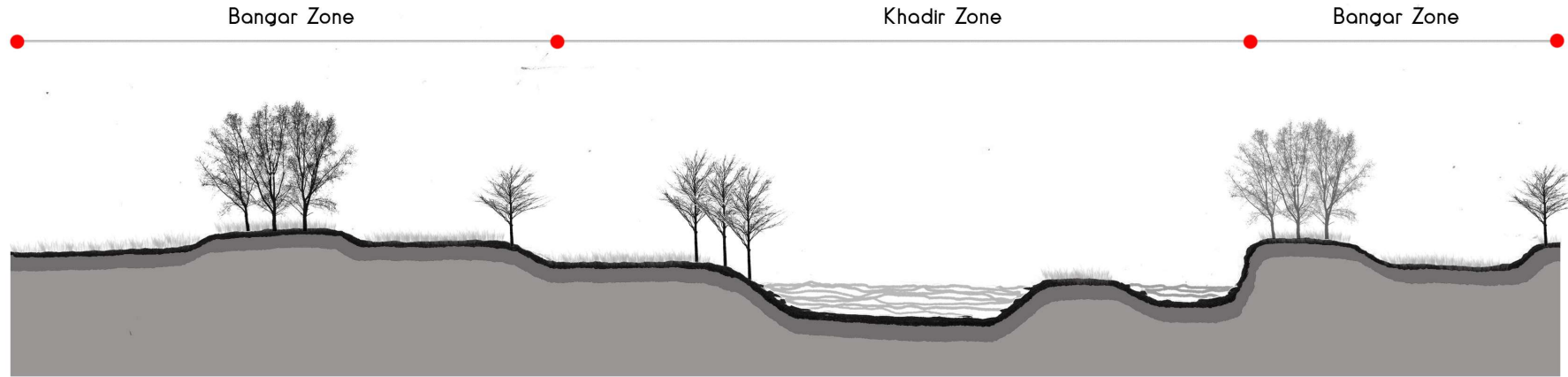
- To strictly allocate land uses as per the proposed Regional level and City Level Master Plans.
- To integrate land use plans along expressways with the Regional development plan following rules and regulations laid by the supreme court and the Government of Uttar Pradesh and Rajasthan
- To regularly monitor the growth and development of the cities particularly along the expressways and fringes to ensure the Master Plans are being adhered to.
- To ensure land use changes are made as per the planning guidelines and as per the Master Plans.
- To strictly adhere to land uses allocated along the river as per Master Plan to ensure the restoration and conservation the River Yamuna.
- To ensure all planning processes and documents developed for same incorporate the visions and mandates of TTZ to protect, conserve and restore the environment, heritage and the social structure of the region with the adoption of sustainable environment friendly initiatives and strategies.
- To adopt Development Control Regulations (DCRs) for mixed use development.

Figure 5.4 Cities along River Yamuna



*Mansoor*

Figure 5.5 Khadar and Bangar Zone Schematic



River Lean Flow

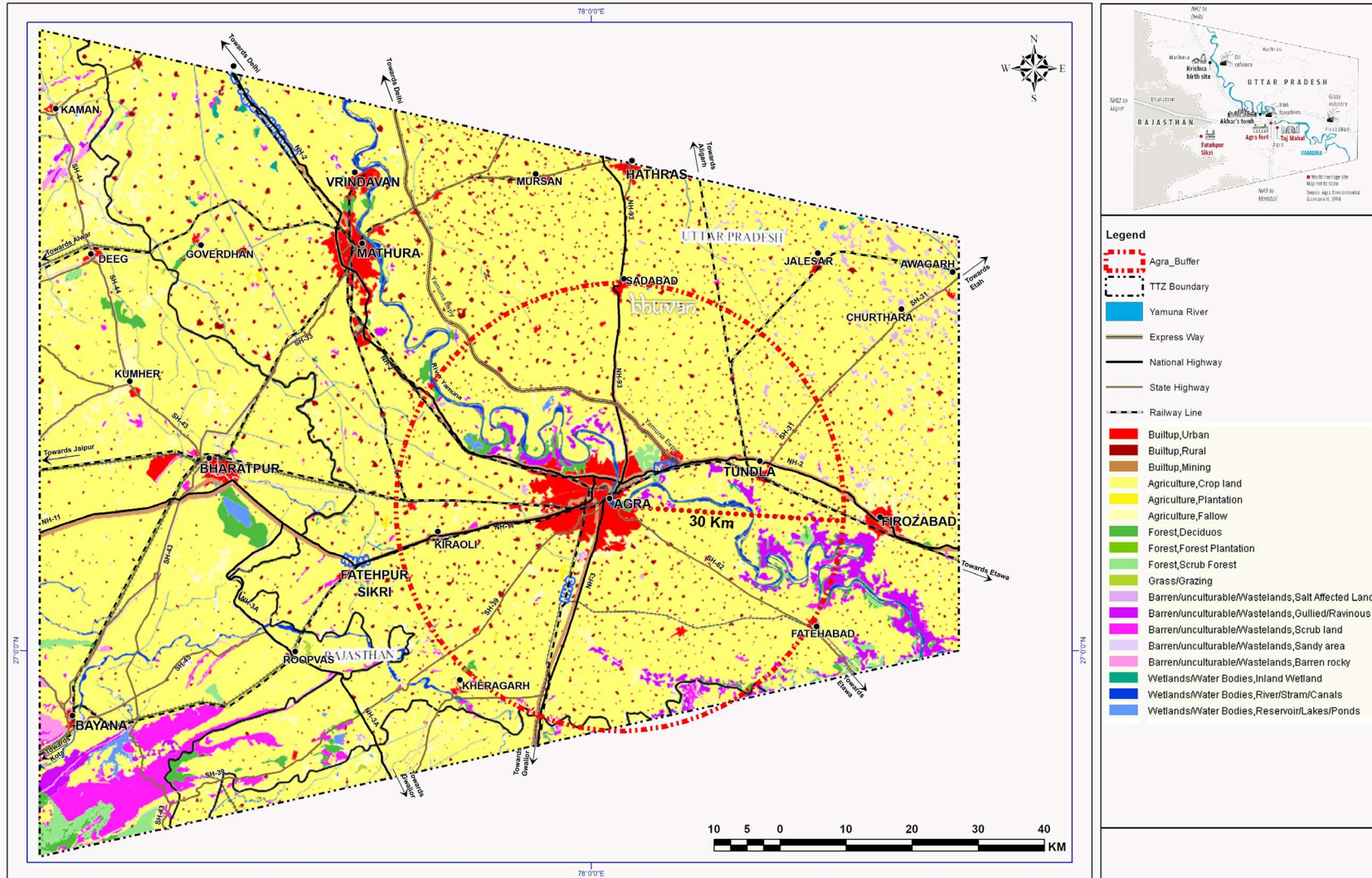
River Annual Inundation

CONSTRUCTION OR DEVELOPMENT SHOULD NOT ENCROACH INTO 'KHADAR' ZONE

*Mona Prasad*



Map 5.1 30 Km Controlled Area around Taj (Airshed to control air polluting activities)



Source: Generated in GIS; SPA, Delhi

*Munir Ahmad*

### **5.3.1.2 Upgrading Existing Economy Generating Mechanisms and Exploring**

#### **New Economy Generating Opportunities**

**Objective 2: To promote TTZ as a region that values innovative and creative industries, invests in small-scale entrepreneurialism, and emphasizes on education, arts and culture.**

**Strategy 1: To encourage Central/UP government to investment in small-scale industries, home based industries and small scale entrepreneurial ventures**

- To promote alternative, innovative and creative industries as identified under the “Mapping and Assessment of Creative Industries” report by UP Tourism in March, 2018.
- To promote skill building Institutions for small scale entrepreneurship.

**Objective 3: To ensure that the industrial and commercial development adhere to the visions and mandates of TTZ.**

**Strategy 1: To upgrade infrastructure facilities for commercial and industrial areas**

- To provide adequate infrastructure facilities for the commercial and industrial sectors as per URDPFI Guideline Norms 2014

**Strategy 2: To discourage and prohibit illegal, unregistered and non-conforming industries and commercial activities.**

- To assess unregistered industries, review their eligibility and take actions to enforce registration by upgrading the industry with proper infrastructure as per industry norms.
- Heavy construction material shops to be discouraged within the cities and new commercial areas within the city limits to be identified for them.

#### **5.3.1.3 Exploring Polycentric Approach to Tourism**

**Objective 4: To encourage the development of new “Urban Destinations with Tourist attractions” in TTZ.**

**Strategy 1: To create new tourist circuits encouraging tourists to travel to unexplored areas of interest.**

- To assess the tourism potential of the region through detailed project reports and develop Tourism Plan for TTZ as per the assessment in the prominent destinations and the unexplored destinations of interest.





- To identify new tourist circuits in the Tourism Plan for TTZ.
- To prepare GIS supported sustainable tourism infrastructure planning framework including attraction, service and transportation facilities.
- To upgrade tourist accommodation and infrastructure facilities as per requirement based on the URDPFI Guidelines 2014 norms in proposed Tourism Plan of TTZ.

**Strategy 2: To diversify tourist activities and reduce the seasonality of tourist destinations**

- To develop non-conventional areas of interest by quantifying the carrying capacity of each cluster by conducting assessment studies at the sites, while strengthening and applying monitoring and evaluation systems.
- To formulate a holistic visitor management plan, while considering each site cluster in TTZ.
- To promote the art and craft industry as an incentive for attracting tourists in off season.
- To conduct major events during off seasons
- To allocate land-uses with high end amenities to attract, retirement communities, destination weddings and events, long term holiday homes, etc.

**5.3.1.4 Deconcentrating and Decongesting Existing Settlements**

**Objective 5: To encourage a settlement pattern free of congestion and adequate breathing space for approved quality of life as per WHO guidelines.**

**Strategy 1: To initiate drives for restoration, conservation, retrofitting and redevelopment of core congested settlement areas.**

- To effectuate Conservation Zoning and high density and congested settlements within the conservation zones to be redeveloped / restored with adequate upgraded housing and infrastructure.
- To reduce slum development, promote employment opportunities and skill building to ensure a higher earning capacity and encourage approved quality of life.
- To regulate New large-scale developments.

**5.3.1.5 Upgrading Infrastructure Facilities and Social Amenities**

**Objective 6: To ensure that the TTZ has adequate and standard physical and social infrastructure facilities required for a sustainable, healthy and an approved quality of life as per URDPFI guidelines.**

**Strategy 1: To assess and incorporate plans to meet existing and future physical**



### **and social infrastructure needs.**

- To assess the Demand Capacity and the carrying capacity of existing infrastructure.
- To adopt levels of service standards
- To facilitate synergistic co-location of infrastructure facilities to encourage efficient use of limited resources.
- To develop life cycle planning of infrastructure facilities
- To identify, investigate, plan and implement, alternative source of water for water supply (domestic use, drinking, agricultural use and industrial use)
- To adopt decentralized systems for infrastructure in big cities like Agra, and Mathura-Vrindavan.
- To prepare drinking water supply Master Plan for all cities of TTZ and install Water Treatment Plants (WTPs) as per the plans.
- To prepare City Sanitation Plan for all cities in the region and implement it at the earliest possible time frame.
- To adopt mechanisms in industries to encourage generation of bio-degradable waste, zero waste or promote recycling of waste and alternative use of waste.
- To make plan for functioning of STPs with full capacity that can treat wastewater as per norms.
- To give incentives and encourage the use of renewable energy sources like solar energy as alternative energy source
- To regularly monitor and evaluate the infrastructure facilities and their demand from time-to-time.
- To promote infrastructure management and Monitoring Projects like the PAS Project in Gujarat and Maharashtra.

### **5.3.1.6 Equitable distribution of roads spaces and areas allocated for transportation network**

- Existing practices of network and infrastructure planning have prioritized land allocation for roads space and operational design of roads for motorized vehicles. It is recommended to segregate primary pilgrimage routes like Parikrama Marg of Mathura, Govardhan and Vrindavan and retrofit the roads with facility for movement of pedestrian.

### **5.3.1.7 Restricting growth of polluting and private vehicles**

- The unprecedented increase in private vehicles particularly two wheelers need to be curtailed with the objective of improving environmental quality. Strategies



- like introducing vehicle quota registration system especially for two wheelers and strict enforcement of standards/norms for checking pollution needs to be adopted.
- In addition to this, the vehicular traffic (driven by fossil fuel) is recommended to be restricted along the entry/exit points particularly in major tourist destined settlements in TTZ like Agra, Mathura, Vrindavan and Govardhan by providing proper parking spaces along these entry/exit points. Further, strict vehicles inspection must be enforced and fossil fuel driven vehicles older than 10 years must be banned in entire TTZ.
  - However, in a longer run it is recommended to achieve targets of 100% electric or green fuel vehicles in TTZ by complete ban on sale of fossil fuel driven vehicles.
  - In settlements like Vrindavan, vehicular traffic has been increasing thus, on the basis of technical requirement and traffic density widening of Mathura Vrindavan road can be undertaken depending upon the policy, guidelines of the government and availability of funds and resources. However, strategies should be laid down to discourage private vehicles within the city. The traffic management plan needs to be developed and actions to de-congest the city should be taken by encouraging energy efficient environment friendly technologies like electric vehicles, public transport, non-motorized vehicles and walking.

#### **5.3.1.8 Revival of the Yamuna River**

- Proposals for revival and long-term security of Yamuna are recommended with the objective of restoring the wholesomeness of Yamuna. It is proposed that the water levels must be maintained throughout by constructing check dams, dams or barrages and there must be provisions for environmental flows at dams, barrages and other structures. This would decrease the distance between ground and ground water levels, thereby providing benefits of enhanced vegetation growth in turn reducing erosion, less evaporation losses due to increase in vegetation cover and maintaining the ground water table.
- In addition, since Yamuna is bereft of manmade pollution, it must be proposed that the water quality in the river shall be maintained throughout by managing solid and liquid wastes generated from various land-uses. Further, riverfront development, floodplain management and rejuvenation of water bodies must be adopted to ensure unpolluted flow. Riverbed farming and sand mining from riverbeds shall also be regulated.

#### **5.3.1.9 Enhancing regional public transportation**

- Develop a long-range transportation plan to establish a regional road-based

environment friendly public transport system, operated and managed by tourism or transport department or could be through partnership model. This would serve to connect residents of constituent settlements as well as tourists/visitors easily and comfortably to the diversified tourism options offered in the TTZ region.

#### **5.3.1.10 Planned approach towards future mobility planning**

- To establish a planned future growth several detailed studies are recommended to enhance the mobility for inhabitants and tourists/visitors.
- Multimodal integrated hubs are required to be designed and developed at major terminals with organized parking for other modes.

#### **5.3.1.11 Parking Management**

- On-street parking has been a major concern within TTZ, thus it needs to be addressed with the objective of enhancing road capacities and environment. Strict guidelines need to be adopted discourage private vehicles in the settlements. For those having private owned vehicles, the parking charges, location of parking bay and strict penalty for unauthorized parking could play a major role in how an individual would prefer to travel.

#### **5.3.1.12 Planned future growth**

- The urban development needs to be restructured with the objective of an integrated development of transport system, regulated transport and travel patterns which would promote mobility, mixed use of public spaces and lower per capita movement.
- It is recommended to prepare an integrated landuse and low carbon mobility plan suggesting development of dense transport networks and combination of transportation modalities for seamless passenger transfer to meet the local community as well as the regional needs. Such a network of roads should be developed which provides better connectivity, reduced travel time, ease of traffic movement and minimised congestion which in turn also contributes in mitigating air and noise pollution substantially.
- In addition to public transport, individual mobility must be an important factor in network planning. The mobility plan must consider the principle of polycentrism. Widening and strengthening of roads should be done in TTZ area to improve riding quality of roads and adopt measures to facilitate traffic movement based on government policy and depending upon availability of funds and resources in addition to technical requirements.







#### **5.3.1.13 Provide connectivity / accessibility to major activity centers**

- Major activity centers in the settlements must allow for greater degree of association with the tourists and locals. However, presently these centers lack an identity as well as accessibility. Thus, it is recommended to ensure all activity centers/ tourist spots hubs to have high quality public transport and non-motorized transport facilities that are appropriate to the role of the center/ tourist spot. Further, the identified potential tourist circuits in the region must ensure accessibility to all key destinations through well-organized electric public transport modes.

#### **5.3.1.14 Strengthening regional connectivity for shared prosperity**

- Regional connectivity is multifaceted since the connectivity of one sector influences the connectivity of others. The deficiency in regional infrastructure negatively impacts the profitability and performance of small scale industries. Thus, urban economic vitality must be enhanced by providing regional transport system that considers the needs of the business community and create opportunities for connections between regional centers.

#### **5.3.1.15 Road Safety**

- Safety of road users is of paramount importance. Authorities should be committed to provide safer roads for its users. Road Safety Plan framed under the directions of Hon'ble Supreme Court shall be implemented while construction of new roads as well as remedial safety measures as per guidelines of IRC shall be implemented in already constructed roads to reduce number of road accidents, as well as the fatality rate. Road safety measures shall include construction of medians, separation of local traffic by service lanes, pedestrian facilities like footpath, road crossings, bus bays, rest areas, illumination of underpass and foot over bridge, development of junctions, installation of retro-reflective signage and road marking by thermoplastic paint, traffic calming and safety management measures as per IRC, providing W beam crash barriers in parapets and approach of bridges and culverts. Road safety measures shall be based on Government policy and depending upon availability of funds and resources in addition to technical requirements.

**Objective 7: Ensure a seamless planning process through effective Institutional Interventions, Funding Strategies and Planning Policies**

**Strategy 1: To strengthen the role of TTZ Authority as a Unified Land Use Transport Planning and Development Authority (ULTPDA).**

- To develop finance plan/strategies to fund ULTPDA for the preparation and

- execution of plans and development activities.
- To increase the Human Resources and Capacity Building of all stakeholders involved in the tasks.
  - To develop educational and capacity-building programs to teach each stakeholder to be environmentally responsible and understand the values of the TTZ Region.

### **Strategy 2: To Prepare Unified Land Use Transport Plan for TTZ**

- Amendments to be made to the Uttar Pradesh Town Planning and Development Act 1973 to make provision for preparation of Regional Plans (TCPO Agra).
- Preparation of Regional Plan and Master Plans of all cities in the TTZ region. Most of the City Master Plans in TTZ have reached their term & need to be reviewed/updated/amended in coordination with the proposed TTZ Regional Plan.
- Preparations of Regional Level Integrated Sustainable Landuse Transport Plan emphasize on protecting natural resources and enhancing livelihood opportunities.
- New land use plans approved for the Expressways in the TTZ region need intervention and monitoring.
- New Tourism Policy of the State to be prepared with attention to polycentric organization of its tourism strategies by focusing on the development of new “urban destinations” in the TTZ region identified by the Tourism department in Uttar Pradesh.
- Low Carbon Mobility Plans to be prepared for settlements with a population more than 5 lakhs.
- Comprehensive Mobility Plan to be prepared for settlements with a population ranging between 1-5 lakhs.

### **Strategy 3: To make the Vision Document, Regional Plan and Master Plans along with other integrated Plans, a one-point document for development in TTZ.**

- In order to ensure effective planned development, the Master plans should be implemented, enforced and amended as per requirement. Master plan to be review present status of Land use in every five year to efficiently monitor growth and development in the cities.
- Master plans to be the key/one-point document for project implementations. All projects identified through DPRs and sub plans are to be amended into the Master plans for implementation.
- Master Plan policies to be reviewed and amended to enhance the efficiency of planning process.



### 5.3.2 Strategies At Agra City Level

#### 5.3.2.1 Strict Segregation of Land Use and Enforcement of Land use codes

**Objective 8:** To effectuate and encourage strict allocation of Land Use as per the proposed Regional and Master Plan.

**Strategy 1:** To ensure land demarcated for any particular use in the Master Plan are not encroached upon by a different land use and are used as proposed and intended in the Master plan.

- To strictly adhere to the allocation of Land Uses as per the Master Plan.
- To regularly monitor and evaluate the development process as per the zoning ordinances and development control regulations (DCRs)
- Heavy fines to be imposed for disregarding zoning and land use codes.

**Strategy 2:** To ensure all vacant/ empty parcels of land belonging to government and sick industries (applying Transfer Development Rights (TDR) with incentives for private land owners) within the prohibited boundary to be converted to recreational open spaces, bagichis, plantations, parks and gardens.

**Objective 9:** To ensure efficient use of available land and to limit misallocation and unused waste land

**Strategy 1:** To temporary zone all abandoned sites, unused waste lands and open spaces as 'recreational zones' to parks and gardens till they are developed as per their intended, proposed, allocated use in the updated and amended Master Plan.

- To ensure no piece of land is left un-zoned, all plots and parcels to be assigned a specified purpose and land use.

**Objective 10:** To restore and conserve land along river banks and flood plains as per the visions and mandates of the TTZ

**Strategy 1:** To allocate a special conservation zone to river banks and flood plain.

- To adopt strict zoning ordinances for all parcels of land along the river.
- To allocate public access zone on river banks.
- To encourage afforestation and plantation only in the special conservation zone along river banks.



- To restrict all non-conforming uses and activities like crematoriums, dhobi Ghats, idol immersion, animal bathing etc. in the special conservation zones along river banks.
- To prohibit construction of any kind of built form on the flood plains and special conservation zones.

### **5.3.2.2 Alternative Economy Generating Initiatives and Opportunities**

**Objective 11: To promote new economic opportunities that value innovative and creative industries**

**Strategy 1: To encourage UP government to invest in small-scale creative industries**

- To identify alternative economy generating initiatives, creative industries and opportunities in the Comprehensive Industrial Plan which conform with the mandates of TTZ industry norms
- To encourage skill building initiatives for promoting small scale entrepreneurship
- To develop proposals for Craft villages with feasibility plans and funding strategies. The identified projects to be amended into the Master plan for implementation.
- To create cooperatives and societies in all neighborhoods where cottage industry clusters are prevalent for organized business platforms, enhanced economy and skill building.

**Strategy 2: To create employment opportunities for semi-skilled and unskilled population of the city, to improve quality of life standards**

- To initiate Pro-poor tourism projects to create job opportunities for the unskilled and semi-skilled population
- To provide alternate employment opportunities for employees of Industries that have shut down due to the pollution mandates of TTZ
- To make policy amendments by adopting the National Street Vendors Act 2014, to protect and promote informal workers and their livelihoods
- To provide opportunities for skill building for workers in the informal sector. For example, engaging in heritage craft markets.

**Objective 12: To ensure existing industries conform with the industry mandates of TTZ**

**Strategy 1: To monitor and regulate development plans of industries in the city.**

- To review and amend all Master Plans and Sub regional and Expressway Plans





to exclude non-conforming industrial developments from the projected city limits and immediate periphery.

**Strategy 2: To assign specific hubs for small scale industries like stone inlay, petha making, leather products within the cities and not encouraged as household industries.**

- To upgrade the infrastructure of alternate small scale industry hubs like, the alternate Petha enclave developed by the Government at Kalindi Vihar
- To promote skill building programs and training for alternate methods of producing Pethas and other small scale industries with environment friendly means and hygienic waste disposal systems

#### **5.3.2.3 Regulating planned development of urban Settlements**

**Objective 13: To discourage unplanned and unregulated development of settlements with poor physical and social infrastructure and encourage sustainable urbanization**

**Strategy 1: To initiate in situ redevelopment and rehabilitation of congested, high density, slum like settlements**

- To develop low cost housing units through in-situ redevelopment for slums.
- To develop night shelters as per URDPFI Guidelines 2014 for squatter population
- To relocate or rehabilitate existing squatters residing for at least more than one year to identified locations within the city.

**Strategy 3: To curb rural to urban migration**

- To plan rural urban interface
- To develop rural management plan emphasizing rural development, agriculture development and tourism development.

#### **5.3.2.4 Upgrading Infrastructure Facilities and Social Amenities**

**Objective 13: To ensure that the City has adequate and standard physical and social infrastructure facilities required for a sustainable, healthy and an approved quality of life.**

**Strategy 1: To assess and incorporate plans to meet existing and future physical and social infrastructure needs as per URDPFI Guidelines of 2014.**

- To assess and evaluate demand and capacity of existing infrastructure
- To develop and implemented a Master Plan for Water Supply System



- To develop and implement a Sewage Management Plan
- To adopt and enforce city level SWM Regulations of 2016
- To develop renewable Energy Plan.
- To identify infrastructural needs and amend into the Master Plan for implementation and monitoring. All proposals and projects identified to be amended into the new Master Plan for review and implementation.

**Strategy 2: To encourage minimum to zero waste management systems**

- To enforce “Bulk Waste Generators” to handle and treat their own waste as per SWM Rules of 2016.
- To implement ‘UP Plastic Ban’ to reduce a significant amount of waste generation in the city. (Source: MC Mehta feedback)
- A landfill site to be developed as per norms of SWM Rules 2016.

**5.3.2.5 Developing Integrated, Sustainable Tourism as an Engine for Economic**

**Development**

**Objective 14: To boost the entrepreneurial capacity of tourist areas**

**Strategy 1: To launch and establish diverse economic activities throughout the identified value chain**

- To develop a sustainable Tourism Plan for the city. The plan should be reviewed, updated and amended every 4 years. The plans and proposals identified in the tourist plan to be amended into the new Master Plan for implementation.
- To identify projects and amend it into the Master plan for implementation
- Links between tourist activities and other economic areas, as well as social and cultural players in the territory, to be strengthened to create economy generating opportunities.
- Tourist service training and professionalization to be promoted to ensure excellence and competitiveness.

**Strategy 2: To promote tourism at unexplored or unfrequented heritage sites.**

- To establish new tourist circuits with non-seasonal attractions
- To identify new internal tourist circuits for the city with more unexplored tourist destinations in and around the city.
- To promote both internal and external tourist destinations in TTZ through branding, advertisements and promotional events.



### **5.3.2.6 Enabling transition towards e-mobility and green fuels**

- The main fuels that is being used presently includes petrol, diesel and CNG. However, considering its environmental impacts, it is recommended to advocate vehicles using clean and environment friendly fuels like CNG, electric and hydrogen with the objective of decreasing the environmental footprint due to transport modes.
- Strategies to replace the existing fossil fuel operated buses to be adopted and complement the proposed pedestrian friendly environment with modernized non-polluting electric taxis, public and intermediate public transport system. This electric mobility needs to be encouraged in conjunction with developing requisite infrastructure parallelly.
- Further, the city is witnessing a growth in the market of e-rickshaws, which aid in reducing vehicular emissions in comparison with diesel fleet autos. However, considering the long-term vision of environment sustainability, the market of e-rickshaws with lead acid batteries need to be replaced with lithium ion batteries.

### **5.3.2.7 Adopting integrated approach towards public mobility**

- In Hong Kong, MTR Corporation Limited, company primarily into building and operating railways, have been given the right to develop properties above depots and railway stations. These developments include office buildings, hotels, residential units, shopping arcades and transport interchanges for different modes well connected to railway stations. This integrated approach has led to developing these locations as major transport hubs catering huge passenger flows, enhanced market value and encouraged demand for different transport services creating a winning situation for all stakeholders.

- Such an integrated approach is recommended for different bus terminals in Agra, to encourage users towards public mobility. In addition, the different modal choices available like rail, bus and IPT needs to be provided with well-designed interchanges for seamless multi-modal connectivity, with adequate park and ride facilities, common mobility card etc.

### **5.3.2.8 Pedestrian and traffic calming facilities**

- Since, the city attracts huge number of tourists the safety of the tourists must not be compromised. All the transport system developments should be with the objective of improving accessibility, road safety and air quality.
- The entire pedestrian infrastructure shall be designed as per the guidelines and can be physically protected from incursions by motorized vehicles by placing bollards. Adequate road signage must also be provided to guide the commuters.



The vehicular traffic must be slowed down to protect pedestrians through speed restrictions as well through infrastructure changes along major NMT routes. Since cycling is the environmental friendly mode for shorter trips, facilities like public bike sharing must be encouraged.

#### **5.3.2.9 Deconcentrate Activities**

- Increase in urban sprawl and motorized movements are a major cause for degrading environmental conditions. Thus, to reduce the existing pressure on the settlements it is recommended to limit the further expansion based on settlements carrying capacity and then adopt policies for well-planned transport infrastructure expansion, deconcentrate activities and managing the land-use structure.
- Thus, it is proposed that the administrative activities less relevant to tourism sector be relocated in other settlements of Agra district. This strategy could reduce the unnecessary commuter trips in the city. France and UK have adopted such policies to address intolerable transport conditions.

#### **5.3.2.10 Restrict/regulate entry of heavy goods vehicles**

- Presence of wholesale markets/mandi severely affect the operational efficiency of transport system. Thus, it is proposed to relocate the existing wholesale/mandi activities of Agra to the outskirts or other settlements of Agra district. Further, no heavy vehicular/truck movement should be permitted within the city centre. Internal movement of goods should be restricted to LCV's and small pick up cargo vehicles at specific times of day and night. This would eliminate the issues of on-street parking of goods traffic as well as loading and unloading operations thereby augmenting the carrying capacity of roads in the city and also reduce the veh-kms travelled by the goods vehicles.

#### **5.3.2.11 Promoting Public Transport Travel**

- Increasing the efficiency of public transport can deliver benefits of enhanced road capacities, accessibility and safety and security. Thus, it is proposed to improve the efficiency of existing public transport system and bring in new fleet for tourists. New electric hop-on-hop-off tourist buses must be introduced covering the other less explored tourist spots in the cities. In addition, common mobility card for residents a separate tourist cards must be introduced. These tourist cards must comprise of parking charges at the entry/exit points of the settlements, local public transport travel and entry fee to various tourist spots within the city.



### **5.3.2.12 Offer iconic experiences**

- The economy of Agra is predominantly tourism sector dependent, hence, focus to be given to creating tourist experiences that offer lifelong memories to tourists/visitors and give them reasons to stay, explore and return. Also, new anchors of identity to be added beyond the experience provided by Taj to create a memorable association with the city.

### **5.3.2.13 Influencing travel behavior and mode choices**

- Current travel behavior in the TTZ region indicates high dependence on private or intermediate public transport modes for travel, which is a serious concern in terms of congestion, road safety, emissions and inefficient use of road space. Thus, it is proposed to provide travel information and incentives to encourage people to walk, cycle and use public transport. Facilities of electric tourist buses should be introduced to facilitate mobility for tourists and make them aware of other unexplored tourist destinations.

### **5.3.2.14 Enhance existing public transport services**

- The key to smart mobility is high standard, well-organised, integrated public transport network covering most of the city. Thus, it is recommended to plan a coherent multimodal public transport system making public transport an increasingly realistic alternative for tourists and locals. The appeal of existing public transport services must be increased by improving reliability of services, quality i.e. replacing existing diesel fleet to electric, raising comfort standard and establishing an adequate system of passenger information.

### **5.3.2.15 Improving environment for all entry/exit corridors**

- The city has 10 major entry/exit points to Agra which should provide a sense of conviviality and also define the image of the city to the tourists/visitors entering the city. These stretches must be clutter free from on-street parking proposed in the traffic management plan.
- All the roads should have an equitable distribution of road spaces, giving more priority to pedestrians and public transport. The infrastructure to the primary route to Taj Mahal i.e. Fatehabad Road should be improved.

**Objective 15: Establish a seamless planning process through effective Institutional Interventions and Planning Policies**

**Strategy 1: To strengthen the role and responsibilities of all three level of Authorities – City Development Authority, City Municipal Authority and “Dharohar**



### **Shethra” Administrating Authority**

- To clear out the roles and responsibilities along with proper coordination mechanisms for all the three authorities
- To develop finance plan/strategies for preparation and execution of plans and development activities.
- To increase the Human Resources and Capacity Building of all stakeholders involved in the tasks.
- To develop educational and capacity-building programs to teach each stakeholder to be environmentally responsible.

### **Strategy 2: To Prepare Unified Land Use Transport Plan for the City of Agra**

- To prepare/update the current Master Plan for the City.
- To prepare a Comprehensive Industrial Plan with sustainable development strategies for Industries in Agra and amend it in to the Master Plan for implementation.
- To prepare Slum Rehabilitation DPRs for the city. The DPR proposals to be reviewed and implementable projects to be identified and amended into the new Master Plan for implementation.
- Infrastructure Plan to be prepared with inclusion of Master Plans for Water Supply, Sewerage System, Power Supply, Drainage & Storm Water System, Solid Waste Management for all the sectors and implement the same in the city
- Social Infrastructure Plan to be prepared for the City of Agra. The projects and proposal to be amended into the new Master Plan for review and implementation.

### **5.3.3 Strategies At Taj Precinct Level**

#### **5.3.3.1 Special Conservation Zoning Along River**

**Objective 15: To restore and conserve land along river banks and flood plains as per the visions and mandates of the TTZ**

#### **Strategy 1: To minimize and restrict access and construction along river banks**

- To allocate a special conservation zone to river banks and flood plain.
- To adopt strict zoning ordinances for all parcels of land along the river.
- To frame policies and zoning ordinances to be framed to regulate restricted access to the river and allowing access only at special access zones.
- To define special zones with adequate infrastructure for accessing the river for activities like washing clothes, cremations and religious purposes.
- To encourage afforestation and plantation only in the special conservation zone along river banks.





- To restrict all non-conforming uses and activities like crematoriums, dhobi Ghats, idol immersion, animal bathing etc. in the special conservation zones along river banks.
- To adopt zoning ordinances to prohibit conventional crematoriums along river banks. Conventional crematoriums to be relocated or replaced by electric crematoriums
- To restrict and/or prohibit large-scale construction or built forms on Flood Plains and special conservation zones. River banks are proposed to have natural plantations of indigenous species only.

#### **5.3.3.2 Building Sustainable, Productive and Inclusive Economy**

**Objective 16: To raise the economy and earning capacity of the population living in the precinct**

**Strategy 1: To promote indigenous art and craft industries and native small scale industries that can make use of the existing skills of the population living in the precinct**

- To develop plans to adopt sections of precinct neighborhoods as craft villages or cottage industry villages. Example community led craft villages or cottage industry villages in Bangladesh.
- To promote and encourage native craft industries like zardozi work and marble inlay work since they have the potential to grow into substantial economy and income generators. Petha, jam, snacks industries are also major tourist magnets particularly for the domestic tourists.
- To revive the Tasar industry and the berry industry which thrived in the city in the past.

#### **5.3.3.3 Regulating development of settlements**

**Objective 17: To release the development pressure in the precinct while keeping in focus the conservation mandates of TTZ**

**Strategy 1: To decentralize new growth in the precinct particularly for new migrants and the peak season tourist flow to release the congestion pressure in the core**

- To restrict new developments, hotels and restaurants in the core and encourage in other parts of the city.

**Objective 18: To ensure sustainable, planned development of the existing**

**settlements in the precinct while following the guidelines and mandates of the vision of TTZ**

**Strategy 1: To restrict / add a cap to the density of the existing settlements in the precinct**

- To assess and evaluate the carrying capacity of the precinct for additional settlements as per future demand and growth of the precinct.
- To adopt stringent rules for issuing high rise building permits. Issuance of Building permits to be restricted and made conditional for multi-story buildings or dense settlements.

**Strategy 2: To upgrade the existing settlements**

- To develop low cost housing facilities with adequate infrastructure and amenities for slum like settlements.
- To restore, reconstruct and upgrade the sewage and sanitary infrastructure of the existing settlements in the precinct.
- To identify and develop alternate living quarters for squatters and slums.
- To provide incentives of new employment opportunity and better quality of living standards for relocating squatters and slum dwellers.

#### **5.3.3.4 Developing an Integrated, Sustainable, Tourist Friendly Urban Planning**

##### **Model**

**Objective 19: To develop tourism as a strategy for urban development and to develop urban infrastructure as a strategy for Tourism development**

**Strategy 1: To engage local communities in promoting an authentic, culturally inclined tourism development plan**

- To develop local handicrafts and souvenir market.
- To develop old mohallas around Agra fort as craft villages with tourist homestays with a Mughal era feel.
- To promote community based Tourism initiatives like Pro por tourism initiatives
- To design tourism activities with the involvement of the local community

**Strategy 2: To upgrade local infrastructure and tourist infrastructure. (“A city that does not serve its citizens cannot serve its visitors” – UNWTO secretary**

**General, T. Rifai.)**

- Identified tourist circuits to be provided with amenities and high grade public







infrastructure facilities.

- To explore the potential of Green Tourism
- To upgrade the tourism experience with new state of the art technology and Smart Tourism
- Connectivity strategies to be developed for all heritage sites within the precinct. Heritage walks, greenways, bike ped scenic routes and river walks and treks to be designed while linking Taj Mahal with all other heritage sites.

#### **5.3.3.5 Restoration of paths with pedestrian walkways and non-motorized**

##### **transport**

- Non-motorized mode are resource efficient modes of transport, consuming minimal road space and impose negligible costs on commuters and environment. Hence, it is recommended to improve the functioning and environmental compatibility of pedestrian mobility components by promoting cycling and walking thereby supporting the objective of sustainable development.
- These mobility components must simultaneously adapt well-designed infrastructure to support non-motorized transport i.e. considering the extreme weather conditions, the roads must be provided with shaded sidewalks or built to pavement edge building with overhangs or arcades, proper signages and other facilities like information desk, toilets and water dispensers. In addition, high albedo materials must be used for paving road surfaces to reduce urban heat island effect. Several pathways like Agra Bah road, road connecting Taj mahal and Agra Fort in the Agra City should be the exclusive domain of pedestrians with necessary amenities and visually attractive environment.

#### **5.3.3.6 Revival of Inland Water Transport System**

- Traditionally, the river was used for recreation and for transportation purposes. However, with the degradation of river people's interaction with river and the cultural landscape has been hampered. Thus, it is recommended to revive the traditional water transport link from Mehtab Bagh to Taj Mahal and Agra Fort by maintaining the minimum draft of 3 meters throughout.

#### **5.3.3.7 Preferred to be a pedestrianized zone**

- The delineated Taj Precinct zone should be preferred to be a pedestrianized zone i.e. walkable with shaded pedestrian's sidewalks, controlled traffic (electric IPT's) and designated cycling infrastructure. This zone must ensure that all relevant new developments take full account of the significance of the area and does not

hamper its value.

### **5.3.3.8 Improve environment for all approach roads to Taj**

- The delineated Taj Precinct zone should be preferred to be a pedestrianized zone and must ensure that all relevant new developments take full account of the significance of the area and does not hamper its value. The pedestrian walkways should be as per the guidelines including provision for universal accessibility with clearly demarcated zones i.e. static pedestrian activity areas along shops, multi-utility areas for street furniture, amenities like toilet blocks, drinking water, information kiosk etc.
- Further, considering the existing site conditions, functional classification of roads & available right of way, the approach roads to Taj needs to be improved in terms of its hardscape. The quality of public places along all the access roads to Taj particularly along the West Gate Road and Agra Bah road needs to be improved. The south entrance to Taj also needs to be revived.

### **Objective 20: Ensure Institutional Interventions for the “Dharohar Shetra”**

#### **Strategy 1: Special Zoning Codes and Acts to be followed in the Dharohar Shetra.**

- Special Zoning codes to be developed for land within the prohibited boundary of the heritage sites to restrict built form, construction and non-conforming landuse.
- The development works suggested around Taj Mahal can be taken up after getting necessary approvals from the Competent Authority within ambit of provisions of the AMSR Act 1958 and rule 1959 (ASI, Agra).

### **5.4 Anchor 3: Heritage Protection and Redefining the Image Structure**

#### **5.4.1 Strategies**

- A. Recognize the natural heritage as an important ecological and environmental resource for the health and wellbeing of the people as well as the environment.
- B. Rejuvenate, safeguard and enhance the natural ecology of the region by protecting and sensitively managing the heritage resources in a sustainable manner.
- C. Ensure protection of the natural heritage resources by regulating urban growth around natural heritage.
- D. Adopt authentic and appropriate landscape design vocabularies in heritage sites to help improve the environmental quality.
- E. The historic character/ design vocabulary of the Kunds should be preserved, conserved and restored in its original shape and form.
- F. In-fill, mixed use development, in all the land parcels, government and privately





- owned, to achieve compactness within the core of the settlements
- G. Review of Corridor Development Plans of all the main corridors to check the nature of development and its impact on environment including induced trips from the core of cities
- H. Integration of smaller water bodies and sites with the local urban development in the form of open spaces and community spaces without compromising with the ecological systems associated with the sites
- I. Harnessing the potential of socio-cultural beliefs associated with the various ecological sites within the local community towards protection of these sites
- J. Re-establish the significance of the riverfront zone in TTZ region as a repository of heritage resources and traditional systems for the protection and conservation of the river.
- K. Designate the riverfront as a heritage zone and through proper management of the heritage resources along the river front improve the quality of interface of the heritage resources with the river and the community.
- L. Use the heritage assets along the river edge more actively and responsibly in order to bring the river back in the lives of the local community.
- M. In-situ improvement of basic services in the settlements located along the river edge, irrespective of their tenure and improvement of accessibility of river edge to these local communities in order to create local everyday spaces and sense of ownership
- N. Maintaining the prominence of historic skyline as viewed from river as well as from key visual nodes along the river by suitably regulating new built forms
- O. Landscape based treatment of the edges, banks and bed of all the Nallahs/streams discharging water into the river for natural recharge and pollution control
- P. Enhance and create sustainable livelihood opportunities by strengthening interface of heritage and local economies centered around heritage.
- Q. Promote cultural entrepreneurs and site interpreters through capacity building of artisans and youth by harnessing their skills and abilities vis a vis care and conservation of heritage assets.
- R. Practice development-oriented conservation that integrates heritage with the daily lives of the people and ensures meaningful stakeholder involvement and participatory management of heritage.
- S. Identifying the spatial attributes associated with these products in terms of production and enhancing these spatial attributes in any regeneration or redevelopment proposal for the settlements. This will promote local trade and add to the unique indigenous





experience if overlapped with tourist circuits.

- T. Identifying live-work relationships and spatial home-shop-workshop typology for specific trades and retaining them in any regeneration and newer proposals in the existing settlements
- U. Recognize the large volume and diversity of unprotected heritage and establish its role as a major functional base for tourist activity and hence a determinant for urban growth in the region.
- V. Develop unexplored and low on visitation heritage sites which can help take pressure off from overburdened heritage sites and settlements.
- W. Ensure that any future developments and interventions respond sensitively to the heritage resources to maintain their authenticity and integrity.
- X. Enable capacity building of all engaged and involved in the care of unprotected heritage.
- Y. A comprehensive tourism plan for the region after considering all the spaces-ecological, religious, architectural, historic settlements and products offered by the region. Identification of actors and graded audience need to be part of this tourism plan.
- Z. Cultural & Creative industry and trade hubs as a catalyst for urban character
- AA. Enhance the quality of the physical and social environment within and around heritage precincts through provision of infrastructure that is sensitive to heritage.
- BB. Introduce tourism related infrastructure and requisite amenities across TTZ.
- CC. Utilization of local assets such as river front, nallah edges, unprotected heritage structures, kunds, any government owned structure and defunct industrial areas for improvement of public realm and creation of additional open spaces in TTZ settlements.
- DD. Develop heritage sites to become part of the multi-nodal development to enable dispersal of visitors and convergence of local communities.
- EE. With various layers of transformation due to technological and need base evolution, the cities and towns under TTZ shall visually represent various images of evolution with prominence to historical core. Rather than enforcing singular image of a city or town, based on the transforming functional roles, the new images need to be strengthened. Like in case of Vrindavan, new sense of spirituality and religiosity can be identified as a unique character from the inner city. Multi-image based zones can be identified radially from the core and through the specific landuse parcels.
- FF. Strengthen the ability of heritage to contribute towards the urban character and image of the settlements by developing heritage sites as urban landmarks through



place making activities.

GG. Delineation of Historic Cores based on multi-sector criteria and creation of an urban conservation and design plan towards protection and enhancement of heritage areas through specific development controls and strategies for continuity and change-spatial types for conservation, adaptive re-use, retro-fitting and pockets for renewal, redevelopment or revitalization etc.

HH. Incorporation of the elements of regional landscape, archaeological sites and urban heritage in the Master/Development Plans of all the towns with specific directions and immediate revision of Master/Development Plans of TTZ Towns.

II. Management of land along highways with suitable landscape measures for dust reduction.

JJ. Preparation of context specific tourism management plan for important sites/spots in TTZ with focus on public facilities, quality of access, pedestrianization and overall landscape improvement.

#### **5.4.2 Recommendations**

##### **5.4.2.1 REGIONAL SCALE**

1. GIS based comprehensive database needs to be prepared through documentation, mapping and detailed inventORIZATION of all the water and vegetal heritage resources like water reservoirs, kunds, water channels, streams(seasonal /perennial), ghats, kunds, baghs, bagichis, vans or forest. It is necessary to enable integrated planning for development of settlements which will ensure protection of these ecologically and environmentally significant sites. The database will help to determine and establish their relevance, role and linkages in maintaining a healthy ecosystem in the region. The inventories should have the key fields of name, location, geographical co-ordinates, boundaries, typology of heritage, condition, ownership, and protection status.
2. Provide statutory protection to all the water and vegetal heritage resources listed in the data base prepared above under the Uttar Pradesh Municipal Corporation Act 1959, the Environment (Protection) Act 1986, and the Forest (Conservation) Act 1980 amended in 1988 including other applicable legal regimes by the municipal corporations, urban local bodies and village panchayats. These natural heritage resources should also be integrated and notified within the Masterplan document so as to protect the significant water and vegetal heritage resources by curtailing incompatible urban development in and around them.
3. Prepare an integrated environmental and natural heritage management plan for the region which recognizes and addresses the linkages between culture and landscape.



4. All heritage kunds, waterbodies and vans to be restored authentically using internationally adopted conservation norms and practices as spelt out in the UNESCO Charters such as Charter for the Conservation of Historic Towns and Urban Areas (Washington Charter 1987), Charter for the Conservation of Places of Cultural Significance also known as the Burra Charter(1979), ICOMOS-IFLA Principles Concerning Rural Landscapes as Heritage (2017) , Valetta Principles for the Safeguarding and Management Historic Cities, Towns and Urban Areas (2011) and Nara Document of authenticity (1994).The conservation and restoration policy for the kunds and vans have to respect and enhance heritage values of the site and should be framed after the assessment of natural and ecological significance, and impact assessment of the existing and proposed development around these sites.
5. All the water assets attached to heritage sites need to be protected and conserved as part of the overall site conservation management plan for each of the sites. These include among others the moat around Lohagarh Fort at Bharatpur and Deeg Fort, Budhia ka taal at Eitmadpur, Gopal sagar at Deeg, Rani ka talaav and Jal Mahal at Kumher, Keshighat at Vrindavan, talaab at Hathras, Adam's Tank and memorial at Agra, VrishbhanuKund at Barsana, Manasi Ganga at Govardhan, Kusumvan Sarovar and Chattris at Govardhan.
6. All vegetal assets in the TTZ region in the form of historic gardens, baghs and bagichis, encompassing ASI protected, State protected and unprotected sites like Badshahi Bagh at Fatehabad, Beniram ka Bagh at Hathras, Kachha Bagh(Rani Bagh) and Gulaab Bagh at Deeg have to be conserved using internationally established norms as spelt out in the ICOMOS Florence Charter on Historic gardens. As part of the conservation exercise, replacing lawns with groves of indigenous trees which were the authentic and traditional vocabularies of design specifically in case of Mughal and Jat period gardens, will increase the bio mass, reduce pollution levels and increase water recharging capacity of the land leading to rise in water table. Restoration of the gardens of Itmad-ud-daula tomb complex, Agra under the ASI is a case in point where the lawns have been replaced with the authentic plant species respecting the design integrity of the garden.
7. Buffer zone around all water bodies including kunds in Barsana, Hathras, Govardhan, Mathura, Vrindavan, Baldeo, Agra, Roopwas, Chaumuha, Chattaneed to be demarcated and notified. The boundaries of buffer are to be decided based on site specific conditions capturing the areas critical for the wellbeing of the water bodies. The soft areas as green cover using indigenous plant species should be maximized



- in demarcated buffer areas. This will ensure protection of the buffer as a community open space /recreational space and development of the catchment area in an eco-sensitive manner for water recharge and harvesting. This will also safeguard the buffer zone from turning into a garbage dumping ground that leads to contamination of the soil and ground water within and around the banks of the water assets.
8. The restoration, renewal, revival, 'beautification' in and around the natural and cultural heritage sites should be done respecting the context, using locally available materials to keep the authenticity and integrity of the heritage sites. In interpretation, these sites should not be 'Disneyfied' with introduction of statuary and other hardscape elements.
9. Establish compatible land use and thresholds of activity around and within these natural heritage assets to ensure their efficient and healthy existence. Environmental Impact assessment needs to be done for all projects, existing and proposed around these heritage assets and necessary mitigation measures should be taken.
10. Ensure that all natural water channels are not obstructed, blocked or courses changed due to development. The channels should be protected with a green buffer wherever possible and their connection with the sewer pipes has to be severed. The sewer and sillage network have to be linked to the Sewage Treatment Plant and only treated water should be discharged into these streams.
11. Enhance the role of the water bodies as water harvesting areas by removing all the newly constructed embankments around the water bodies which are obstructing the flow of storm water and preventing rain water harvesting. Ensure all road gradients also help in directing rain water into water harvesting tanks or natural water bodies.
12. Vehicular traffic in all the designated heritage precincts of settlements in TTZ needs to be curtailed and pedestrian zones introduced in the interest of heritage and well-being of residents and visitors in the area. NPVs need to be introduced in the historic inner city core of all cities.
13. Afforestation should be promoted in the TTZ region by increasing the green areas through plantation of indigenous trees along all vehicular roads, open areas, public parks and parikrama routes.
14. Assessment of quantity of land parcels during the preparation/revision of master plans of the cities/towns and fixing appropriate use, preferably, mixed use, for available land parcels.
15. Government land parcels to be developed for community use, economic activities and low-income, low rise high density, housing apart from reserving some portion of





land for green spaces

16. Review of Corridor Development Plans of Yamuna Expressway, Lucknow Expressway and developments proposed along NH-2 in various master plan to ascertain total developmental activity proposed and its impact on environment. Downsizing the development and mitigation measures to be adopted in the corridor development plans for any adverse impact on environmental and ecological resources of the region
17. Specific design controls in all the master plans of towns/cities wrt to ecological precincts covering boundary walls, landscape treatment (preferably large native trees), percentage of surface area under hard paving, design treatment of bed and walls of water bodies (preferably mud or stone pitching) etc. It is recommended here that any planning decision and design treatment must keep in mind that water bodies are ecological resources first and places for human recreation and enjoyment later.
18. Delineate and demarcate the riverfront in Agra, Vrindavan and Mathura as a heritage zone within the Master Plan. The delineation of the zone should be based on the identification and mapping of the protected and unprotected tangible and intangible heritage resources, the typology of heritage resources and their cultural associations. The boundaries should be additionally guided by the existing buffer of 300metres for ASI protected structures.
19. Protect, conserve and restore the historic ghats and all riverfront heritage such as gardens, temples, havelis, mosques, fort and other significant structures along the ghats. Each river settlement has a unique character along the riverfront representing a diversity of heritage. Mathura has a range of heritage from ghats, havelis, temples, fort and mosque; Vrindavan has few historic ghats on the riverbank while the remaining ghats are found inside the city due to the shifting of the river course. Agra had 45 historic gardens on the riverfront of which only few are surviving at present namely Taj Mahal, Itmad-ud-daula complex, Chini ka Rauza, Ram Bagh and Mehtab Bagh while others have been fragmented or developed as residential settlements and industrial heritage over a period of time.
20. Strictly control open defecation along the river edge and provide toilet facilities as per norms under schemes such as Swachha Bharat Mission, AMRUT, HRIDAY. The design and location of toilets should be done so as not to compromise on the heritage quality of the river edge.
21. Introduce interpretation, education and outreach methods encouraging sensitivity towards heritage through signage in appropriate location along the river front without



compromising on the visual experience of the area.

22. Remove all encroachments from the public lands / government owned land on the riverbank and provide alternative locations so as not to disturb livelihood patterns of the communities displaced and to prevent re-encroachments. The public lands to be identified by the Municipal Corporation with revenue records before taking necessary action.
23. Development detrimental to the bio diversity along the flood plains of the river is not to be permitted along the banks of the river.
24. Dredging and desilting of river and other water bodies should be done at periodic intervals to enhance the water recharge capacity.
25. Disaster Management Plan specific to river front heritage resources needs to be prepared.
26. Identification of significant spaces and precincts along the length of river and classification of these spaces as per their archaeological, historical, ecological, functional and cultural values. Each interface with the river to be treated differently as per the identified value(s), immediate physical edge and local community in the preparation of a comprehensive plan for upgradation of these spaces and precincts along with movement of people towards/from these spaces, associated activities and landscape treatment. Some of the important spaces at TTZ Level to be taken up on priority are KC Ghat till Yamuna Expressway link road at Vrindavan, Maoli Khader till Army Golf Course at Mathura and stretch of river behind Sikandra Complex near Agra
27. GIS based documentation and mapping of creative industries in the TTZ needs to be undertaken to develop digital platform through mobile based application enabling tourists to identify and visit the centers of craft production.
28. Social and physical infrastructure within and around the identified heritage precincts needs to be improved for enhancing the quality of life of the communities residing within and around these precincts. Infrastructure to include provision of public amenities, proper solid waste management practices, street furniture, lighting, walkways, signage and interpretation. All projects to undertake a social impact assessment before implementation to ensure the infrastructure makes a meaningful impact on the lives of the communities.
29. Heritage open spaces and community living spaces in heritage precincts need to be enhanced through urban design interventions.
30. The living and working conditions of various craft sectors need to be improved by introducing modes of production and equipment conforming to universal safety



standards and making their use mandatory in the various craft industries. This applies specifically to the glass bangle industry and stone carving industry.

31. Adopt joint green cover management practices with the local communities and urban local bodies to rejuvenate the barren lands, lost vans and groves through introduction of social forestry that also benefits the community in economic terms. This includes tulsi cultivation, flower cultivation in Vrindavan, Mathura, Govardhan and other smaller settlements of Braj Region, and 'petha' gourd cultivation in Agra and nearby settlements.

32. Various stakeholders and management systems engaged with heritage resources need to be identified and their roles in the maintenance, management and use of these resources should be enhanced.

33. All abandoned heritage buildings need to be put to adaptive reuse, aimed at benefiting the local communities, after due conservation, repair and restoration. It should be noted that where a change of use is proposed, the new use should be compatible with the cultural heritage value of the place, and should have little or no adverse effect on the cultural heritage value as mentioned in ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value (Revised 2010). The compatible uses could be heritage home stays, public amenities, museum, interpretation centre, cultural haat.

34. Capacity building and promotion of cultural entrepreneurship among local community such as site interpreters, tourist guides at heritage precinct level and along identified heritage trails needs to be planned for.

35. Livelihood opportunities need to be enhanced through skill development and product development of local crafts and promoting direct market access for the tourists for all the craft industries. This should include economic revitalization through revival of traditional crafts skills like Sanjhi art, by diversifying into other products.

36. Crafts industry needs to be strengthened by improving marketing strategies and identifying sale outlet points and haats for traditional crafts within heritage precincts.

37. Creative industries like glass manufacture needs to be linked with environmental issues by diversifying into production of glass bottles to replace plastic bottles, while adhering to environmental pollution control standards.

38. Small scale cottage industries in the TTZ region, predominantly in the areas of Agra, Braj region comprising of Mathura, Vrindavan and Govardhan should be encouraged. These include petha making, peda making, tulsi mala making, glass industries, floral garland and silver jewelry. Production of traditional culinary items



- should adhere to established norms and standards of hygiene.
39. Introduce NPVs in heritage zones which would also provide employment opportunities for e-rickshaw drivers.
40. The incorporation of craft and cultural industry shall not only include the sites of products but also the production. This will refrain the culture consumers from partial engagements with the act of buying but also, it will make them engage with the process of production. This will also help in maintaining the spatial essence through activities and associated building typologies.
41. Prepare GIS based database of built heritage resource in the TTZ region (both state protected and ASI protected) through documentation, mapping and detailed inventories. It should help recognize the different layers of history in the region manifested in monuments like tombs, gateways, city walls, dargahs, mosques, temples, havelis, gardens, institutions, churches, railway station, and bungalows. These are needed for integrated planning for development of settlements ensuring protection of historically, ecologically and environmentally significant sites.
42. Grade all the heritage assets based on their significance to enable various scales of protection regimes and norms.
43. Protect all identified heritage assets identified above through statutory protection under Uttar Pradesh Municipal Corporation Act 1959 and other applicable legal regimes followed by the municipal corporations, urban local bodies and village panchayats. The concerned development authority would need to integrate these in both the Master plan and Regional development plan.
44. Identify the significance of the historic settlements which help impart an identity to each settlement. This identity needs to be conserved and enhanced in any future development of the area. All the settlements are repositories of values because of historical narratives, but also have other values which are archaeological, architectural, religious, artistic, social and educational in nature. Hathrahs famous as a centre for production of heeng but also has numerous gardens and havelis of architectural value and archaeological mounds. Sadabad is a settlement with Nawabi architectural heritage. Deeg derives its identity from the spectacular palace garden complex and fort with high architectural and landscape value. Bayana has high architectural and cultural significance because of the syncretic nature of its architectural monuments. Firozabad is the centre of bangle production in India. Mathura, besides its association with Lord Krishna and the pivotal centre of Braj, is also associated with the Mathura school of Art and the golden age of the Guptas. Vrindavan, Govardhan, Gokul, Barsana, Nandgaon,





Baldeo and Mahavan are an integral part of the cultural landscape of Braj. Tundla gets its identity as a colonial period railway hub. And Agra has multiple identities with its crafts, Mughal and Colonial layers of architectural and urban expression. All these identities and the character of the historic settlements which give these settlements their identity need to be enhanced through future urban development policies.

45. Nature of tourism activity, thematic zones and theme-based circuits need to be developed based on the significance of each settlement. Tourism movement corridors need to be planned around these themes.

46. Awareness and interpretation of heritage, needs to be increased with adequate and appropriate site interpretation. Interpretation centres need to be sited in abandoned and restored structures within heritage precincts.

47. An Urban Heritage cell for conservation of historic buildings and precincts should be set up within each municipality wherein mechanisms are developed so that the task of conservation of heritage is shared by all urban governing bodies and coordinated and monitored by the Heritage Cell. Heritage and its protection should Figure on the agenda of all civic bodies and guidelines may be prepared requiring heritage owners to maintain their property in such a manner that it's heritage form and character does not decay. The Heritage Cell should be housed in one of the abandoned and restored heritage structures in the heritage precincts.

48. Heritage precincts need to be delineated based on a comprehensive data base compilation and concentration of heritage assets, and notified through Master plans as special areas in all the settlements to include Agra, Mathura, Vrindavan, Gokul, Barsana, Nandagaon, Govardhan, Baldeo, Mahavan, Chaumuhan, Bharatpur, Deeg, Bayana, Kumher, Roopwas, Firozabad, Tundla, Hathras, Sadabad, Fatehabad, FatehpurSikri. Heritage centric, site specific byelaws need to be framed for these heritage precincts. Development guidelines in heritage precincts should address issues of land use, plot widths, massing, building line, skyline, building materials, openings and ornamental details, viewscales/view corridor, compatible land use and new development in heritage precincts and heritage streets.

Table 5.2 Settlement wise identified Heritage precinct/ heritage streets with key heritage structures

HISTORIC AREAS	TYOLOGIES	KEY MONUMENTS
AGRA		
Taj Precinct and Riverfront Gardens, Agra		
Precinct 1: Taj and immediate surroundings, Agra		



HISTORIC AREAS	TYOLOGIES	KEY MONUMENTS
Taj Ganj and katras ,Paktola, Purani mandi , Telpara, Kachhpura	Tombs and Gardens	Taj Mahal, Agra Fort , Dara Shikoh Library , Khan-i-Alam , Mehtab Bagh, Bara Khamba , Shah Jahan's Park
Precinct 2 : Extended Riverfront Gardens		
Rajwara, Radha Nagar, KatraWajir Khan, Rambagh, Street scape of Belanganj towards the river	Tombs, Chattris , Industrial Heritage and gardens	Ram Bagh Garden, Nur kisarai, Chini ka Rauza , Parvez Khan ka Maqbara, Itmad-Ud-Du-ala, John's Mill, Jaswant Singh kiChattri
Historic Core of Agra		
Precinct 3 : Hing ki Mandi and surrounding areas		
Hing ki Mandi , Moti Katra, Naiki Mandi, Raqaabganj, Mantola	Mosques, Madrassa, Residences, Historic bazaars	Motamid Khan Mosque, Mankameshwar Temple, Kalan Masjid Mosque
Precinct 4: Marble industry of Gokulpura, Agra		
Gokulpura and Loha Mandi	Residences, Temples, Historic gates, Commercial Streets	Mangleshwar Temple, Kans Gate, Gangur Gate
Precinct 5 :Belanganj and its bazaars		
Belanganj, Kashmiri Bazaar, Kinari Bazaar	Mosques, Havelis, Residences, Godowns , Historic bazaars	Kala Mahal, Shahi Madarsa Masjid, Motamid Khan Mosque, Mankameshwar Temple, Hazoori Bhawan, Mahesh Chand Bansal House
Precinct 6 :Colonial Bungalow precinct		
Cantonment Area, Civil lines, Raqaabganj	Bungalows, Churches, Institutions, Offices	NCC Officer's Mess, Adams Tank and Memorial, Agra Cantonment Railway Station, ASI Offices, St. George's Cathedral Church
Precinct 7: Colonial Institutional Precinct		
Sikandra	Tombs, Palaces, Gardens	Akbar's Tomb, Kaanch Mahal, Guru ka Taal, Colonial Structures, Church
FATEHPUR SIKRI		
Precinct 1: City of Victory: Settlement of Fatehpur and Sikri		

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HISTORIC AREAS	TYOLOGIES	KEY MONUMENTS
Fatehpur , Sikri , Rasoolpur, Guru ki Mandi	Fortified walls, gates, Bastions, Mosques, Baradari	Lal Darwaza, Todar-Mal's Baradari, Qushkhana, Tomb of Sheikh Ibrahim, HiranMinar, Ibadatkhana, Diwan-i-Khas
Precinct 2: Mughal Imperial Highway Precinct		
Agra to Fatehapur Sikri	Kos Minars	Kos Minars , Remains of Sarai, Chhatris
HATHRAS		
Precinct 1: Baghs and Bagichis of Hathras		
Nayaganj area	Baghs, Chhatris	Beniram Ka Bagh, SekriseriyaUdya, Jhurriyan School, Borewala mandir
BARSANA		
Foot Hills and Historic Core		
Precinct 1 : Core settlement at the foot hills		
Core of the settlement	Temples, Kyari, Palace, haveli, Residences ,Chatri	Shri Radha Rani Temple, Shri Gahvaran-Baithak ji and bagh, Banke Bihari Temple, Chattris of Barsana, Sudama Ji ka Mandir
Kunds and Vans of Barsana		
Precinct 2 :VrishbhanuKund Precinct		
Heritage for Community	Kund and Chattris	VrishbhanuKund, Pillar with Sanskrit inscription dated samvat 1666 in the flanking tower at the Bhanakaur tank, Kirti Kund
Precinct 3 :Kunds and Temple		
Coexisting Mythology and ecology of Barsana	Temples and Kunds	Radha Raman Temple, VihavalKund, Krishna Kund, Shri Sanket Devi Temple, Prem Sarovar, Chatri, Radha Gopal temple, Rangeeli Mahal, Pili Pokhar
Precinct 4 : SakhiGiriParvat Precinct		



HISTORIC AREAS	TYOLOGIES	KEY MONUMENTS
Hill precinct of Barsana	Temples and Hills	Dauji Temple, DehaKund, Lalita Sakhi Temple, Trivedi Kund, Lalita VivahSthali, SakhiGiriParvat, SakhiKup
<b>MATHURA</b>		
Historic Core of Mathura		
Precinct 1: Tilas and Ghats of Mathura		
Sapta Ridhi Tila to Ganesh Tila including all ghats from Ganesh Ghat to Gupta Ghat and historic structures along river front	Tilas (mounds- few residential settlements at present), Temples, Mosque, Qila and Ghats	Mazar Karbala/ Barakhamba, Ganesh Tila/ Ganesh Tirtha/ Ganesh Mahadev Mandir, SomtirthGhat/ Krishna Ganga, Dhruv Ghat, Swami Narayan Mandir, Bali Tila, SaptarishiTila, SomtirthGhat/ Krishna Ganga Ghat, Kans Qila/ Old Fort of Mathura, Surya Ghat/ Suryatirtha/ Suraj Ghat, AsikundaGhat/ Varahatirtha, Ram Ghat, Kanakhalatirtha/ KanakhalatirthaGhat
Precinct 2: Bazaar Streets with Havelis and shops		
Chatta Bazaar and Sadar Bazaar	Residences, Historic Bazaars (Shops of Sarafas and Metal Workers)	Ram Dwar, Yamuna Dharamaraj Behan Bhai Mandir, Gatashram Narayan Mandir, Kishori Raman, Jain Temple-Shri Parshwanath-Digambir,
Keshav Ji GaudiyaMatha, Holi Gate		
Archaeological and Mythological Core of Mathura		
Precinct 3: Mosque and Janambhoomi Precinct with the bazaar, Mathura		
Janam Bhoomi and Govind nagar area	Temples, Mosque, Kund and Bazaar	Janam Bhoomi Temple, PotraKund, Idgah/ Keshav Dev Mandir, GovindpurTila, Mahavidya Kund, Bazaar.
Precinct 4: Shiv Taal Precinct		

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HISTORIC AREAS	TYOLOGIES	KEY MONUMENTS
Shiv taal with haveli, temple and open community space	Temples, Haveli and Kund	Shiva taal and Radha Raman Shiv Taal Bihari Mandir with residences and open space for community
Precinct 5: Bhuteshwar Road Precinct		
Kacheri road	Temples, Mosque, Kund and Bazaar	Gopal Khera, Kankali-Tila, Akhada Bhuteshwar, Bhuteswar Mahadev Mandir/ Patal Devi Mandir
Colonial Core of Mathura		
Precinct 6: Colonial Precinct of Mathura		
Cantonment Areas	Institutions (Library, museums etc.), residences, church and schools	Residential and administrative structures with in Cantonment, Churches
VRINDAVAN		
PARIKRAMA MARG ZONE		
Precinct 1: Ghat Precinct of Vrindavan		
Stretch of historic ghats and edge of receded river	Vans, Temples, Ghats	KeshiGhat, Cheer Ghat, Nidhi van, RoopSantanGaudiya Math, Laakhnu Temple, Tatiya Sthal, ViharGhat, Dwadash Aditya Tila, Shringar Vat, Temple of Jugal Kishore, Old NandQuila, NabhaGhat
Precinct 2: Temple precinct of Parikrama Route		
Temples and Bazaars along the parikrama Route	Temples, Bazaars, Well,	Prem Mandir, Iscon Temple, Jaipur Mandir, Bazaar selling Poshak and incense and other intangible crafts.
Significant Temples and Environs		
Precinct 3: Rangji Temple and Govind Dev Temple precinct, Vrindavan		
Rangji Temple Complex with Bagichis and vans and streets leading to the Rath Yatra Route.	Temple, Bagichi, Van, Kund, Bazaars, Residences	Rang Ji temple, Jagannath Temple, Ram Bagh, Rath Yatra Route, Residential Precinct with in the temple, RangjiBaghichi, Govind Dev temple, Market Street in the complex, Goshala, Nikunj Van



HISTORIC AREAS	TYOLOGIES	KEY MONUMENTS
Precinct 4: Banke Bihari Temple and Bazaar lanes of Vrindavan		
Residential and Bazaar lanes leading to the Banke Bihari temple	Temples, Bazaars and Residences (turned into math and Dharamshalas)	Banke Bihari Temple, NabhaWali Kunj, Seth Sagarmal Dharamshala, Sahajapura Temple, Rasik Bihari Temple, Shriji Temple, Thakur Radha Kant Bihari Mandir –Choti
<b>GOVARDHAN</b>		
Parikrama Zone		
Precinct 1: Hills enveloped by Parikrama Marg		
Mythological and Jaat period precinct of Govardhan	Temples, Chattris, Kunds, Maths, Ashram	Chhatris of Govardhan, Kusum Sarovar, Raja RandheerkiChattri, Apsara Kund, BilachhuKund/ Vilas Vadana, Chakra Tirth/ Chakleshwar Mahadev Temple, Brahma Kund
<b>NANDAGAON</b>		
Mythological and Ecological Settlement of Nandgaon		
Precinct 1: Ecological envelope of Nandgaon		
Surrounding kunds and hills	Hills, Temples, and Kunds	Surya Kund, Charan-Pahadi, Kajal Kund/ KajraraKund, PanihariKund, Yashoda Maath, Surya Kund, UddavKyari, Milan Kund, YashodhaKund
Precinct 2: Mythological core precinct of Nandgaon		
Core temple hill	Bajaar, Havelis, residences, Temples, Maths	Nand Bhawan/ Nand Rai Bhawan/NandRajika Mandir, Yashoda Maath, Dhowri Haveli, Haveli, GauKhuta
<b>BALDEO</b>		
Precinct 1: Temple and Kund Precinct of Baldeo		
Dauji Temple and Kund of Baldeo with approach street with historic havelis and residences	Temples, Kund and remains along the kund, Havelis, Residences	Dauji ka mandir, Shri Hardev Ji ka Mandir, Sankarshankund
<b>BAYANA</b>		



HISTORIC AREAS	TYOLOGIES	KEY MONUMENTS
Precinct 1 : Group of Mughal Monuments of Bayana		
Group of monuments from Satpura to SaatKunda	Chattri, Gateway, temple, Mosque, Kunds	Jahangir gateway, Kale Khan ka Makbara, Sarai-Sad-ullah, Akbar Chhatri
Precinct 2 : Syncretic Precinct of Bayana		
Bada Bazaar and Bhitawadi Chowk	Temple, Mosque, Minar	Usha Mandir, Lodi Minar, Mosque
Roopwas		
Precinct 1 : Lal Mahal Precinct		
Mahal with water body	Water Tank and Palace	Lal Mahal, Water Tank
TUNDLA		
Precinct 1- Colonial Precinct of Tundla		
Residential railway colony	Church, residences and gardens	Bungalows with fore-court gardens, residences with common green spaces, company bagh now railway colony park, Church.
BHARATPUR		
Fortified City of Bharatpur		
Precinct 1 : Fort including the moat		
Fort precinct with its defence architectural elements	Fort, Town hall, Moat	Lohgarh Fort, Moat, Mahal Khas, Sujan Ganga, Sinsini Burj, Bihariji Ka Mandir, KachahariKalan , Kothi Khas, Chaman Baggechi(garden)Kamara Khas, Hansarani Mahal, Hammam & mud wall
Precinct 2 : Colonial Precinct		
Residential precinct of Pai Bagh and Namakkatra in proximity including colonial layer within the fort and surroundings	Temples, Residences, Shops, Town Hall	Janana Hospital, Jatonki Haveli, Upadhyay haveli, Salgiram ka Kund, Chatra and mandir, Kuan, Mud fortification wall, Radha Vallabh Ji ka Mandir, Giriraj Singh ki Haveli
Precinct 3 : Historic haveli and bazaar street of Bharatpur		



HISTORIC AREAS	TYOLOGIES	KEY MONUMENTS
Stretch from KumherDarwaza to NavgrahaMandir and kund including Daujikamandir and tank upto circular road	City gates, Temples, Residences, Shops.	KumherDarwaza, Sarafa Bazaar, Laxman Mandir, Saraf Haveli, Jain Mandir, Rekha Nanga ki Haveli, Sharma Haveli, Oswal Haveli, Rajkiya Shree Vrishbhan Kumari Baulika UchhyaMadhamik Vidyalaya, Shri Venkatesh Purana Laxman Mandir, AnahDarwaza, VeernarayanDarwaza, Lohgarh Press Club, Agarwal Dukan and Haveli
<b>DEEG</b>		
Precinct 1: Royal Garden and palaces precinct of Deeg		
Fort precinct including the gardens and the baghsin front of the palaces and surround water bodies.	Fort, Palaces, Gardens	Deeg fort, Gulab Bagh, Kachha Bagh, Ram Bhawan, Jai Mahal
<b>KUMHER</b>		
Precinct 1 : Historic and ecological precinct of Kumher		
Kumher fort and surroundings	Fort, Talaab (kund), Gaushala	KachaTalaab, Rani ka Talaab, Gaushala and tank, Kumher fort
<b>FATEHABAD</b>		
Precinct 1 : Mughal Precinct of Fatehabad		
Seraiaand mosque precinct including the bazaar street with havelis.	Mosque, Bazaar, Residences, Serai	Mughal Serai, Humayun's Mosque, bazaar street, havelis.
Precinct 2 : Mughal Garden of Fatehabad		
Badshahibagh	Garden	Badshahibagh
<b>Firozabad</b>		
Precinct 1 : Historic Bazaar Street		
Economic and socio cultural drivers of the city : From the tomb of Feroz Shah to the entire Sadar Bazaar Street including the arterial lanes such as BohranWaliGali, Irfan Market	Bazaar Streets with Residential havelis and religious structures	Sheikh Khalif Masjif, Feroz Shah Maqbara, Farookihi masjid, BohranWaliGali, Irfan Bazaar, Residences and havelis on Sadar Bazaars and internal lanes.



HISTORIC AREAS	TYPOLOGIES	KEY MONUMENTS
SIKANDRA RAO		
Precinct 1 : Old fort/ tehsil precinct		
Ruins of SikandraRao	Remains of old tehsil (previously a fort) and the water body	Remains of Tehsil, Rehtom Pond and open area

49. Special byelaws and guidelines need to be framed for prohibited and regulated zones around ASI protected sites as per the regulations of the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010.

50. Capacity building of the urban local bodies to tackle heritage related issues in a sensitive manner needs to be enhanced through workshops, training and outreach programs to cover aspects related to, among others, technical knowledge of traditional materials, urban conservation norms and conservation implementation mechanisms.

51. Archaeologically significant sites, both protected and unprotected, need to be maintained and conserved and development around them to be monitored to enhance their significance and value. Wherever possible, the archaeological mounds should be integrated with the urban development patterns as open spaces, to ensure that there is no encroachment.

52. Heritage precincts with significant architectural, cultural and natural heritage need to have sensitive tourism management plans that enhance the values of these sites. Adaptive reuse of the vacant and abandoned heritage structures for amenities for tourists should be considered.

53. A robust tourist triangle of TTZ with three main nodes in the form of Mathura-Vrindavan, Agra and Bharatpur-Deeg-Fatehpur Sikri need to be developed and the spaces and sites can be developed around existing urban geography and triangular tourist urban structure,

54. Short-term and long-term tourism circuit in the region is recommended around the above urban structure with upgradation/improvement of areas around tourist attractions and basic services for tourists at key locations

55. It is further recommended that balance between tourism and everydayness of the city (site specific everyday spaces with the attention to locals as well and their socio-cultural practices) needs to be maintained by articulating the relationship between everyday spaces used by locals and tourist sites.

56. To retain the essence and genius loci of the places in TTZ, it is recommended to strengthen the spaces and activities associated with cultural and creative industries





within the settlements

57. Physical infrastructure needs to be improved in heritage zones and precincts with living crafts to improve quality of life of the craftsmen. These include glass factories and units at Firozabad, Heeng and colour production units in Hathras, Peda making units in Mathura, Vrindavan and other cottage industries functioning in TTZ region.
58. Risk preparedness and risk mitigation plans need to be prepared for all heritage sites and precincts.
59. Improve access to heritage sites and precincts and provide parking areas outside heritage precincts. Heritage precincts should be planned to prioritize pedestrian movement with provision for transport for physically challenged, elderly and sick persons. Existing pedestrian routes should be designed to be pedestrian friendly and new routes should be developed to form the pedestrian network connecting various heritage sites.
60. Road widening activities in the heritage precincts to accommodate more vehicular traffic should be carried out taking sufficient measures to avoid pollution, based on Government policy and depending upon availability of funds and resources in addition to technical requirements.
61. All infrastructure development of any scale in heritage precincts should be given clearance only after an exhaustive Heritage Impact Assessment and providing adequate mitigation measures. For example in Govardhan, a heritage structure located at the corner of the Mansi Ganga kund, (part of the historic precinct) was demolished to provide for parking facilities.
62. Heritage precincts should be cattle free and cattle traps should be strategically located.
63. Tourist information centres/kiosks should be located strategically, close to heritage sites and precincts, along heritage trails and in heritage buildings wherever possible.
64. Improve and provide for infrastructural facilities and amenities like drinking water, public toilets, litter bins at all heritage sites and precincts. A management plan should be in place for regular maintenance and upkeep of the public amenities. The physical infrastructure such as garbage collection points and electric transformers should be placed in discreet locations to avoid visual marring of heritage sites. Infrastructure which is destroying the visual quality of heritage needs to be removed and relocated. Underground wiring needs to be introduced in all heritage precincts.
65. A battery bus service that would pick and drop visitors need to be introduced wherever possible to ensure improved access opportunities to the various heritage

spots within the settlements. This will also ensure effective tourist dispersal so that they do not concentrate on only the major, more visible tourist destinations.

66. Taking three riverfront at Agra, Vrindavan and Mathura as first stage projects for improvement of open space for surrounding local community and city at large. It is recommended that these riverfront projects are to be conceptually structured around the 'Recreation' and not 'Entertainment'.

67. Other spaces recommended under this strategy are, edges of Govardhan Parbat, Moat at Bharatpur, John's Mill at Agra, edges of Deeg Palace, Shani Mandir at Kosi, and gardens along the bank of Yamuna at Agra

68. Neglected and relatively unknown heritage sites need to be developed to help disburse visitors and take pressure off over visited heritage sites. This will also encourage visitors to stay overnight in locations, ensuring their contribution to local economy. These new nodes to be developed with tourist infrastructure include Bayana, Deeg, Roopwas, Firozabad, Itmadpur and should be developed as theme based destinations and circuits catering to different tourist interest.

69. Based on the additive layers of development such as, historic core, production units of the town, real-estate ventures, etc. to be identified under specific functional character zones.

70. Once established, suitable urban image reflecting the predominant function need to be identified.

71. Such image districts to be linked with each other with specific attention to their edge conditions and activity patterns along the movement corridors.

72. Along with the promotion of mixed land use development, the character of each functional district to be enhanced through morphological interventions specific to respective character district for redevelopment of brown field and upcoming green field developments.

73. Settlements need rediscovery of their specific visual identity achieved through built heritage expressions. These expressions in the form of heritage streets, heritage precincts need to be strengthened.

74. Urban Design Guidelines for the identified character zones in the settlements need to be formulated to address height controls, boundary wall treatment, and streets furniture, landscape design, which will enhance the visual character of these heritage sites and improve their interpretation. These guidelines should be prepared in consultation with team of technical experts from the field of Urban Design, Landscape Architecture, Urban Planning and Conservation.

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75. Since the settlements showcase unique identities, movement corridors such as NH 2 and expressways to utilize the vehicular intersections (urban nodes) and built edges (urban edges) to reflect the cultural and built identity. Also, the transition from change of architecture from one cultural precinct to another in TTZ to be consciously dealt with urban design guidelines.
76. Almost in all TTZ towns, such as Mathura, Vrindavan, Deeg and Bhartpur, the way built asset is revealed is quite unique and this needs to be consciously dealt with area level interventions to enhance the overall experience.
77. The river edge is pertaining to high potentials for creating a proscenium for built heritage and cultural activities. Desilting of such assets post monsoon and development of continuous links across the ghats, while considering the flood plains, will enhance the usage of the river front and it will provide a new identity to the cities.
78. Built edge conditions of the prominent attractions such as Deeg Palace, Buland Darwaza, etc. to be considered important. Significant buildings in the region not to be considered in isolation and the overall built environment, especially around the culturally significant structures to be considered as a whole and urban design guideline to be prepared and followed.
79. In case of inner cities, the charm of narrow lanes shall be maintained through appropriate degree of enclosure. Both, the vantage and vistas to be maintained without misappropriation by individual's form-based intervention.
80. Construction of new link roads to connect unconnected villages, habitations; construction of bypass for populated towns. Construction of roads for connectivity to destinations of tourism, cultural and religious importance, heritage sites, business and commercial centers shall be done as per guidelines and policy of Government depending upon availability of funds and resources in addition to technical requirements.
81. Road should be constructed adopting new technology in construction with an aim to provide technically sound, economical, fast, environmental friendly and sustainable solution to construction activities with an aim to lessen the burden on fast depleting natural resources.
82. Construction of Bridges, ROBs and Flyovers should be carried out as per requirement of traffic density, connectivity, control and flow of traffic which shall also reduce traffic congestion, travel time thereby reducing the average time vehicles occupy roads which in turn helps reducing air pollution on roads. All development works in road sector shall be executed as per Government policy and guideline depending upon availability of funds and resources.



83. Government office and residential buildings shall be maintained and kept in satisfactory condition. According to subsequent requirements of different departments residential and office buildings need to be constructed for proper functioning of different offices. As per Government policy these buildings shall be constructed as per National Building Code provisions, specifications and other considerations envisaged by Pollution Department of the State keeping in view environmental considerations. Construction of administrative blocks, hospitals, institutions, school and college buildings etc shall be required to be constructed as per standards and byelaws laid down by the Government and also depending upon the policy and availability of funds and resources of Government.

#### **5.4.2.2 Agra City scale**

1. The natural streams which were a part of the urban fabric of historic Agra and which have been converted into nallahs for the sullage and solid waste need to be restored back as storm water drains by regulating the edge treatments and land use around them and integrating them with the open space systems of the city.
2. Restore both ASI protected (Taj Mahal, Mehtab Bagh, Ram Bagh, Sikandra) and unprotected historic Mughal gardens in Agra, using authentic plantation vocabularies like groves of trees instead of lawns and authentic plant species. Replacing present day lawns with tree cover as existed originally will increase the biomass, reduce water consumption required for the maintenance and upkeep of the garden, enhance the water table through ground water recharge and also act as natural dust catchers to reduce pollution levels as a more effective and economical option. This requires preparation of a landscape plan which follows the historic plantation scheme and design principles and is based on historical and archival research, documentation of existing plantation pattern and site explorations.
3. All the restored historic gardens need to be integrated with the open space systems of the city
4. Tree cover needs to be increased in the identified heritage precinct of the cantonment area by planting shade giving trees with dense foliage along the roads.
5. Immediate revision of Master Plan of Agra with a view to increase the compactness of the city by utilizing available government and private land parcels (except Cantonment) so that infrastructure provisions- water supply, sewerage and public transport can achieve economies of scale. The revision needs to take care of reducing the sprawl by increasing the intensity of compatible functions between the existing developed area and outer ring road.





6. Cantonment of Agra is recommended to be taken up as a special character zone due to the presence of large tree cover and colonial heritage. The tree cover acts as an appropriate sink for any kind of air pollution for the city and Taj. Separate regulations are required to be prepared respecting the above two aspects of tree cover and colonial heritage and to include design controls for maintaining the tree cover, height of boundary walls, building heights and building uses.
7. Delineate, demarcate and notify the riverfront as Environmental Heritage Zone in the Master Plan of Agra. The Master plan of Agra needs to remove the residential areas that have been proposed on the river edge which will impact the floodplains.
8. Protect the character of the riverfront zone by enabling land-uses that are compatible with the heritage resources and the environment.
9. The river and its ecosystem need to be rejuvenated by improving the groundwater recharge through adoption of water management systems within the historic gardens along the river front, which will increase the water retention capacity of the soil. This includes plantation of indigenous species of trees and shrubs.
10. Incorporate water into the image of the city as a major landscape element, by providing public access to water. This can be achieved through the restoration of gardens as green open space and recreational spaces catering to the city as well as the tourists.
11. A continuous green edge, keeping native plantation and water recharge on the floodplains and banks, to be envisioned for river at Agra in the Master Plan of the city along with development control regulations for protection of any significant historic skyline.
12. In-situ basic infrastructure improvement for settlements located along the banks of river such as settlement around Raja Jaswant ji ki Chattri.
13. Greening of all the drains entering the river with suitable landscape treatment and to restore them as natural wetlands and open spaces for the city. Paving, concretization of slopes, top or bed of nallahs is not recommended.
14. There are many existing settlements along the edge of the river. These settlements have been at these location for decades and have a right to the place. Special attention must be given to uplift the state of services and proper infrastructure must be provided. The river edge must be made accessible and designed as per the community consultation to appropriate the use and create a sense of ownership within the communities.
15. Working conditions of craftsmen working in stone carving, zardozi in the heritage

precincts of Gokulpura and Hing ki Mandi need to be improved by providing improved physical infrastructure. Open spaces in heritage precincts where craftsmen reside need to be promoted as outdoor working spaces wherever needed and possible as in the case of stone craftsmen.

16. All abandoned heritage buildings identified through detailed inventory mapping have to be integrated with the lives of the local people through compatible adaptive reuse by introducing public amenities in these buildings. This will encourage the local community to have a stake in their upkeep and protection.

17. Build capacities of local communities residing in the vicinity or within heritage precincts as tourist guides at heritage precinct level for identified trails in heritage precincts of Belanganj, Cantonment and Mall road, Colonial Agra and river front gardens and related heritage on both banks of the river.

18. Develop and organize craft based walking tours in Agra to explore the areas where Zardozi, Pachikari (marble inlay), Carpet weaving works are carried out in the neighborhoods of historic walled city of Agra.

19. Develop and organize cuisine based walks to explore the areas such as petha making street which will give the tourist an opportunity to buy directly from the shops and contribute towards improving the living and working conditions of the workers.

20. Synergy between growth of inevitable small-scale industries and fragile environment for holistic development is a way forward for Agra.

21. Small scale industries are inevitable due to the user demand, price and associated livelihoods. The stringent norms can be categorized based on quantity of air pollutant discharge. Such alterations in norms will provide legal execution of small scale industrial activities of which right now are hidden and causing more damage to the environment through poor live-work condition, intoxicated and littered open spaces, ground water extraction and discharge predominantly along ecologically sensitive sites. While this will promote the livelihood of skilled workers, the overall development will improve the quality of open spaces and experience.

22. The historic core of Agra needs to be nominated as a World Heritage City by UNESCO. This would require legal and management systems to be developed for the protection of the Outstanding Universal Values of the city, as per the criteria set by UNESCO in the Operational Guidelines for the implementation of the World Heritage Convention.

23. Within the city of Agra various heritage precincts with different thematic content need to be delineated and protected. These are Taj Heritage Precinct with the iconic

A handwritten signature in blue ink, appearing to read "Munali D".

Taj; Riverfront precinct with the river facing gardens; Hing ki mandi precinct with its crafts and mediaeval fabric character; Gokulpura precinct with the settlement of stone carvers; Belangunj precinct with its urban mediaeval character; Cantonment area precinct with its special Colonial bungalows character; Dayalbagh precinct with the Colonial institutional character.

Table 5.3 Identified Heritage Zones and Precincts in Agra

Historic precinct / group of monuments	Key Themes	Historic settlements / areas	Key Monuments
<b>HERITAGE ZONE 1 : Taj Precinct and River front gardens, Agra</b>			
Precinct 1 : Taj Mahal and immediate surroundings	<ul style="list-style-type: none"> <li>Royal structures with ancillary historic bazaars and residential Settlements</li> <li>Manifestations of Mughal Capital</li> </ul>	Taj Ganj and katras, Paktola, Purani mandi, Telipara, Kachhpura	Taj Mahal, Agra Fort, Dara Shikoh Library, Khan I Alam, Mehtab Bagh, Shah Jahan's Park
Dominant Character of the Precinct: <ul style="list-style-type: none"> <li>High tourist foot fall area around</li> <li>Residential houses rapidly changing in character</li> <li>Shops of historic bazaars in Taj ganj</li> <li>East and West gate of Taj Mahal have large parking areas and other tourist amenities</li> <li>Paradise Park, Shah Jahanparkand protected forest area near east gate are green buffer spaces around Taj and River.</li> <li>Marble inlay work is the craft still surviving in Taj Ganj.</li> </ul>			
Precinct 2 : Extended River Front Gardens	<ul style="list-style-type: none"> <li>String of royal gardens along the river</li> <li>The ecological foot print of Agra</li> <li>Traces of Industrial influences of Colonial Period</li> </ul>	Rajwara, Radha Nagar, KatraWajir Khan, Ram-bag, Street scape of Belanganj towards the river	Ram Bagh Garden, Nur Ki sarai ,Chini ka Rauza , Parvez Khan Ka Maqbara, Itmad-Ud-Daula, John's Mill, Jaswant Singh Ki Chattri
Dominant Character of the Precinct: <ul style="list-style-type: none"> <li>Residential infill developments and communities along river front</li> <li>Nurseries along the eastern edge of the river</li> <li>Ruins of historic gardens and traces of garden elements in nurseries and within settlements.</li> <li>Settlements have turned their backs towards the river leading to unhealthy state of the river and solid waste dumping along the river edge.</li> <li>Layer of now abandoned industrial footprint over the historic gardens along the western edge of the river.</li> <li>Urban pressure and intense development in the areas along the western river front</li> <li>Commercial landuse on vehicular roads on both sides of the river</li> </ul>			







Historic precinct / group of monuments	Key Themes	Historic settlements / areas	Key Monuments
<b>HERITAGE ZONE 2 : Historic Core of Agra</b>			
Precinct 3 : Hing ki Mandi and Surrounding areas	<ul style="list-style-type: none"> <li>Economic and Social drivers of the city</li> </ul> <p>Dominant Character of the Precinct:</p> <ul style="list-style-type: none"> <li>Residential structures with shops on ground floor</li> <li>Narrow streets and dense settlements</li> </ul>	Hing Ki Mandi, , Moti Kaitra, Nai Ki Mandi, Raqabganj, Mantola	Motamid Khan masjid, Mankameshwar Temple, Kalan masjid
Precinct 4: Marble industry of Gokulpura, Agra	<p>Craft industries</p>	Gokulpura and Loha Mandi	Mangleshwar Temple, Kans Gate, Gangur Gate
<p>Dominant Character of the Precinct :</p> <ul style="list-style-type: none"> <li>Residences with courtyards and verandahs as working spaces.</li> <li>Narrow streets</li> <li>Shops on the ground floor of peripheral streets</li> </ul>			
Precinct 5.:Belanganj and its bazaars	<p>Historic housing</p>	Belanganj, Kashmiri Bazaar, Kinari Bazaar,	Kala Mahal, Shahi Madarsa Masjid, Motamid Khan Mosque, Mankameshwar Temple, Hazoori Bhawan, Mahesh Chand Bansal House, Dara Shikoh library
<p>Dominant Character of the Precinct :</p> <ul style="list-style-type: none"> <li>Residential structures</li> <li>Infill Developments of new structures</li> <li>Narrow streets</li> <li>Commercial streets</li> <li>Historic social Infrastructure – Mosques and madrasas</li> </ul>			

*Munawwar*



Historic precinct / group of monuments	Key Themes	Historic settlements / areas	Key Monuments
Precinct 6: Colonial Residential and Administrative precinct	Colonial bungalows	Cantonment Area, Civil lines, Raqaabganj	NCC Officer's Mess, Adams Tank and Memorial, Agra Cantonment Railway Station, ASI Offices, St. George's Cathedral Church
<p>Dominant character of the Precinct:</p> <ul style="list-style-type: none"> <li>• Bungalows of high architectural value sitting in large compounds</li> <li>• Low rise development</li> <li>• Wide streets</li> <li>• Low boundary walls helping architecture to communicate and contribute to the streetscape</li> </ul>			
Precinct 7: Colonial Institutional Precinct	Colonial institutions	Dayal Bagh and Paliwal Park Precinct.	Samru Tomb, Roman Catholic Cemetery, Kandahari Begum Tomb, St. John's Inter College, Murrari Lal Katri Girl's Inter, Muzaffar Khan ka Bagh, Agra College, St. John's Church, Lady Lyall Hospital, St. Peter's College, School-St. Joseph's & St. Patrick's, University Library, Akbar's Church, Queen Victoria Inter College, Chandiwali Kothi, Paliwal Park, Gol Mandri, Hessian Tomb, Civil Courts
<ul style="list-style-type: none"> <li>• Dominant character of the precinct:</li> <li>• Institutional complexes with high value architecture set in large compounds</li> <li>• Buildings with large footprints</li> <li>• Wide roads</li> <li>• Colleges and schools as dominant use</li> </ul>			

24. Special byelaws and development guidelines need to be formulated for identified

heritage precincts which maintain their character, through regulations that are context specific, heritage sensitive and community responsive.

25. Heritage sites and precincts within the city of Agra need to be conserved and promoted and developed with tourist infrastructure which can help take pressure off from the already overburdened heritage sites of Taj.

26. Heritage Impact Assessment, Environmental Impact Assessment and Social Impact Assessment should be undertaken for all upcoming development projects within the immediate vicinity of both protected and unprotected heritage sites and precincts.

27. Heritage precincts identified should be brought under 'Adopt a monument scheme' to improve basic civic amenities and built environment for the residents within. This is especially needed in crafts clusters like Gokulpura with pachikari (marble inlay) work, Nai ki Mandi for Zardozi, Tedhi Bagiya for carpet weaving

28. Site Management Plans for the World Heritage Sites, namely Taj Mahal, Agra Fort and Fatehpur Sikri complex need to be prepared and periodically monitored as per the mandatory requirement for all World heritage sites as per the Operational guidelines laid out by UNESCO.

29. A Historic Building Bank needs to be set up in an abandoned heritage structure for depositing all the neglected pieces of heritage buildings lying scattered and uncared for in the streets of Agra.

30. There needs to be a proper tourism plan laid out for the city by carefully identifying the actors and graded audience for tourism.

31. Physical infrastructure needs to be improved in heritage precincts identified which have living heritage such as stone craftsmen in Gokulpura, petha making units and zardozi workers in Naiki Mandi, carpet weavers in Tedhi Bagia to improve quality of life and working conditions of the craftsmen. Other areas with living crafts need to be identified for physical infrastructure improvement.

32. Riverfront gardens need to be conserved and revitalized as part of the open space system of the city. Revitalization of these areas will help in improving the experience of the local community as well as the tourists.

33. Risk Preparedness and Risk mitigation plans for the World Heritage Sites and the sites with high visitor footfall need to be prepared.

34. A comprehensive traffic management plan, responsive to the large quantum of heritage dispersed all over the city of Agra, needs to be prepared which promotes pedestrian visitor movement in heritage precincts. It should improve physical and visual connectivity between heritage resources and reduce traffic congestion in heritage





- precincts. The plan should encourage visitors to travel on foot or use ecofriendly modes of transport. New movement routes should be designed for pedestrian movement. Access to heritage sites identified within the heritage precincts needs to be improved by improving road edge conditions, signage and interpretation.
35. Given the quantum of heritage in Agra different hierarchies of trails need to be planned out and itineraries worked out for various time spans available to tourists. Nodes or pause points need to be strategically located as resting spots along the heritage trail. Trails have to be designed at both pedestrian and vehicular scales.
36. Road widening schemes in heritage precincts to accommodate increasing traffic need be carried out with proper safety measures to avoid pollution, based on Government policy and depending upon availability of funds and resources in addition to technical requirements.
37. Battery operated ecofriendly modes of transport along tourist routes need to be introduced with designated stops for hop on, hop off.
38. Park and ride facilities for visiting heritage precincts and heritage zones, with nodes for parking at strategic points along heritage trails need to be introduced.
39. Public amenities, to include drinking water kiosks, public toilets and dust bins at key locations, discreetly located along heritage trails and within heritage sites need to be provided.
40. Roads more than 10 metres wide should be planted with shade giving indigenous trees as a public amenity to enhance the visitor experience in harsh weather condition and also contribute towards green cover.
41. Other than tourism oriented needs, the neighborhood concept shall be deployed for fulfilling basic day to day need at walkable distances for social and physical infrastructure as the town has other functions too other than the predominant one.
42. Provision of attractive public transport both for short and long journeys shall be provided. The drop-off and pick-up points will become a potential for integration with place making.
43. Not only near the tourist attractions (majorly between tourist parking and the attraction), but the city shall be pedestrian friendly with adequate pedestrian infrastructure.
44. The character and quality of key open spaces within heritage precincts and around heritage resources need to be enhanced to become nodal spaces as part of community open space networks. Organized public open spaces around monuments would ensure their protection against unwanted development in the future.



45. Nodes of varying hierarchies need to be developed around heritage sites to take load off the Taj area.
46. The riverfront historic garden precinct needs to be planned as a vital open space of the city.
47. While recognising multiple functional nodes such as peripheral real-estate zones, extension of Taj ganj, Old city precinct and cantonment, the Master Plan and urban development regulations shall pertain to strengthen functional distinctions which will cater to the urban image.
48. The edge conditions need to follow urban design guidelines for setbacks, activity allocation and morphological treatment to accentuate the character districts and their experience.
49. The character zones in the city of Agra forming the image of the city are identified as heritage precincts. Urban Design Guidelines for the identified character zones for height controls, boundary wall treatment, streets furniture, landscape design need to be made which will enhance the visual character of these heritage sites and improve their interpretation.
50. Monuments need to be integrated in public chowks and open spaces through sensitive urban design to enhance the imagery of the place.
51. Apart from Taj Precinct, there are three more areas of significance in the city- Cantonment, Old City and Extensions of Tajnaji, south of Taj Mahal. These areas require specific urban design guidelines for conservation and redevelopment and renewal
52. An immediate revision of the Master plan and building regulations is recommended to incorporate and revitalize the historic cores of the city.
53. A robust community participation needs to be adopted in order to revitalize the Old City areas, Tajganj, Kachpura, Jama Masjid area and settlements around Agra Fort.
54. Create an inclusive and sustainable public realm by improving pedestrian infrastructure and quality of public spaces along Fatehabad road, Road from Agra fort station to Agra fort and further leading to Taj Mahal. Emphasis to be given to introduce climate and culturally responsive pedestrian infrastructure along the Bazaar streets proposed in Agra Master Plan 2021.

#### **5.4.2.3 Taj Precinct scale**

1. As part of the conservation of all historic gardens, all the lawns within historic gardens, including the World Heritage Sites of Taj Mahal and Agra Fort, Mehtab Bagh, Ram Bagh, Chini ka Rauza, Bagh e Sultan Parvez, Bagh e Khan e Alam,





- Bagh-i-Jahanara( Jahanara Bagh), Buland Bagh, Jaswant Singh's Chattri need to be replaced with authentic and historically correct plant species and planting patterns known to have been planted in the respective Mughal garden sites, based on evidence from archival sources.
2. The health of the forest cover in the forest land adjoining the East gate needs to be improved by planting more indigenous trees.
  3. More shade giving indigenous trees need to be planted along the newly designed east gateway entrance axis which will improve the microclimate, visitor comfort and the biomass to help reduce pollution levels in the precinct. More green surfaces need to be introduced along this axis for similar results.
  4. Plant groves of indigenous trees in the Paradise park on the west bank of the river to hold the soil, improve the microclimate and reduce pollution levels by acting as a dust catchers.
  5. Alternate livelihood opportunities must be planned in the precinct (not just tourism related). Household industries, art-craft clusters must be retained and not relocated. More innovative techniques should be adopted to tackle the pollution caused by these industries rather than adopting a conventional, unsustainable approach of relocation.
  6. The river edges must be cleared from the accumulated solid waste and no untreated sewage discharge should be allowed throughout the stretch of the river.
  7. The drains in the precinct should be covered and a green buffer must be designed.
  8. A system of active and passive green spaces should be created through the precinct. Existing open spaces should be conserved through statutory plans and regulations and be utilized as passive green spaces.
  9. Any future development on the reserved Forest area and its extension should not be allowed.
  10. The existing residential settlements on the land demarcated for National park north of Taj Mahal across the river must be retained and proper infrastructure and livelihood opportunities should be provided.
  11. Slums located in the precinct must be retained and different development model must be designed on case to case basis. Citizen led incremental upgradation should be prioritised over rehabilitation or relocation.
  12. Robust community participation must be conducted to create any development guidelines or proposal for the residential areas in the precinct.
  13. Enhance the experience of the riverfront zone by improving the accessibility, visibility, legibility and interpretation of the heritage resources sited along the river

bank, which include the riverfront Mughal gardens

14. Conserve Ram Bagh and Buland Bagh complex, ChinikaRauza, Bagh-e-Sultan Parvez, Mehtab Bagh, Khan-e -Alam Bagh, Rauza of Zafar Khan, Jaswant Singh kiChattri so that the river front contributes to the open space system of the city.
15. The edge treatment of the riverfront in different sections needs to be designed to have visual connection with the river. The urban fabric on the west bank needs to be connected with the river by lowering the walls along the road to have a visual connect with the river so that it becomes a part of the everyday experience of the people using the road.
16. Traffic along the road edging the river along the west bank needs to be curtailed so that pedestrian movement is encouraged and both local community and visitors get to experience the river more actively.
17. Protection and enhancement of important view corridors and vantage points is required in order to reclaim and redefine the relationship of the mausoleum complex with the river and Mahtabbagh across the river.
18. Ecological restoration of the river throughout the precinct should be done while maintaining the historical edge and skyline.
19. The lost relationship between the river and the monuments must be reclaimed and reimaged, access points should be introduced at strategic locations based on interest and existing visual corridors.
20. Development of infrastructure dedicated to the ghat's activities should be done. While acknowledging ghats as nucleolus of activities, the infrastructure to support activities such as bathing, aarti, boating, worshipping and basic utilities to be provided which will accentuate the activity patterns along the ghats. Once being an asset, the river front to become a source of livelihood for many and also become a revitalized public space for the communities while maintaining hygiene.
21. A guided tourist circuit through river which can help in revitalizing interface between monuments and the river. Destination oriented, spot-based tourist circuits can provide new vistas to historical monuments. It will enhance the importance of forgotten monuments and help in new representations (non stereotypical image such as Taj). This will increase the duration spent by the tourist specially in the cities like Agra where the stays typically are for single day. This can also link indigenous baghs, nursery and other significant location dotting city's evolution such as closed industries as attraction
22. Improve engagement of communities with heritage by developing spaces around



heritage structures for public use. Gandhi Smarak adjacent to Itmad-ud-daula complex needs to be designed as a public space providing access to the local community. Its regular upkeep and maintenance will be ensured if the local community is made a stakeholder. The enclosure wall also needs to be made more transparent for the residents around to have a visual connect with the heritage site.

23. The historic gardens Buland Bagh, Zahara Bagh, Chini ka Rauza, Bagh e Wazir Khan, Bagh e Sultan Parvez, partly converted to nurseries need to be developed as centres of Mughal plant industry providing increased job opportunities for sale and marketing of Mughal plants as a tourism product. Tourist guides from the local community need to be trained and imparted with knowledge of Mughal gardens and plants to be able to conduct heritage walks in these sites.

24. Develop Nur Mahal serai between Ram bagh and Buland bagh as crafts haat selling crafts of Agra as part of the adaptive reuse strategy. The design has to be sensitive to the heritage character of the site and should not undermine its historicity in any manner.

25. There needs to be a shift in focus from tourism to developing other sectors to bring livelihood opportunities for the local and create a multi-sectoral livelihood pattern in the precinct.

26. Traditional livelihood patterns should be identified and conserved in the precinct for a sustainable future growth.

27. The intensity of informal activity with the current trend is going to increase in the future and the future proposals must incorporate this trend.

28. Retail commerce should be promoted in the precinct, serving not just to the tourists but also incorporating the local needs. A mix of such retail shops must be maintained in every market space/street.

29. The precinct needs to be promoted as a garden district.

30. Other heritage sites within the precinct need to be conserved and interpreted to take visitor pressure off Taj. The sites identified are Mehtab Bagh, ChiniKaRauza, Ram Bagh, Itmad-ud-daula, GyarahSidhi, Khan-i-Dauran Bagh, Buland Bagh, JahanaraBagh, Jaswant Singh ki Chattri and Haveli of Agha Khan.

31. The riverfront precinct with its historic gardens should become part of the open space system of the city.

32. A comprehensive conservation management plan needs to be prepared to cover all the sites located in the precinct addressing their conservation, landscape design, management and interpretation for local community and visitors. The sites to be





included are Chini ka Rauza, Mehtab Bagh, Gyarah Sidhi, Ram Bagh, Buland Bagh, Jaswant Singh ki Chattri, Jahanara Bagh, Khan-i-Dauran Bagh, Khan-i-Alam Bagh, and Battis Khamba.

33. The Management plan should include development of open spaces within the precinct as community open spaces with improved landscape, infrastructure and public amenities, signages and street furniture.

34. Eco-tourism trails to be developed in the protected forest reserve on the east of Taj Mahal to create awareness among the locals and visitors about the biodiversity in nature.

35. Cultural industry shall be developed in order to carry forward the traditional knowledge and skills and, it will add to the livelihood for the less privileged people in the precinct which being an attraction.

36. The road presently running along the river front and cutting the city from the river should be planned to have limited traffic to encourage pedestrian movement and to help recover the riverfront garden landscape. Pedestrianization would also significantly help to emphasize the historic character of the site.

37. Access to river and river front gardens needs to be improved. The followings spots need to be made more accessible: Bagh-Shah Nawaz Khan, Buland Bagh, Ram Bagh, Jahanara Bagh, Chini ka Rauza, Bagh-e-Wazir Khan, Bagh-e-Sultan Parvez, Bagh-e- Mausawi Khan, Haveli of Khan-e-Dauran, Haveli of Aga Khan, Rauza of Zafar Khan and Jaswant Singh ki Chattri.

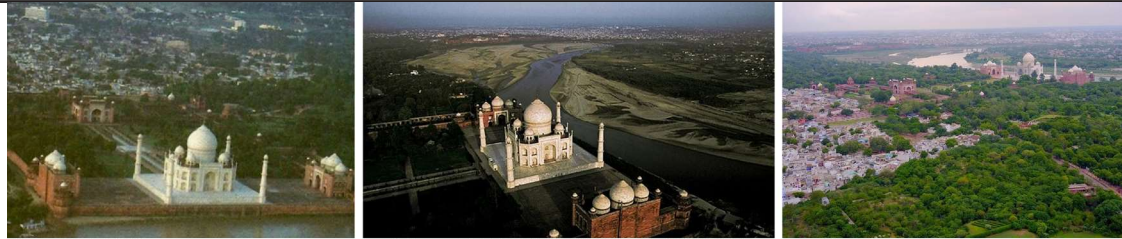
38. Identification of important tourist routes should be done and should be pedestrianized wherever necessary allowing only para transit and public transport on these routes.

39. Provisions for handling large pedestrian footfall shall be dealt with wider and accessible shaded footpaths with universal access.

40. The visual clutter, including electric cables, water supply and sewerage pipelines and drains along with hoardings shall be minimized to enhance the overall experience.

41. Develop various heritage sites along the river front precinct as nodes to accommodate various functions of the city and take pressure off the Taj area. These heritage sites are: John's mill area as public place, Khan-e-alam as heritage site, haveli of Khan-e-Duran, open Gandhi Smarak for community access, ram bagh and serai precinct etc. Johns Mill area needs to be developed as a public amenities area and a major node of the city with restaurants, crafts centre and recreation without compromising on the spatial and visual integrity of the site and its significance as an outstanding example of industrial heritage.

Figure 5.6 Viewshed around Taj

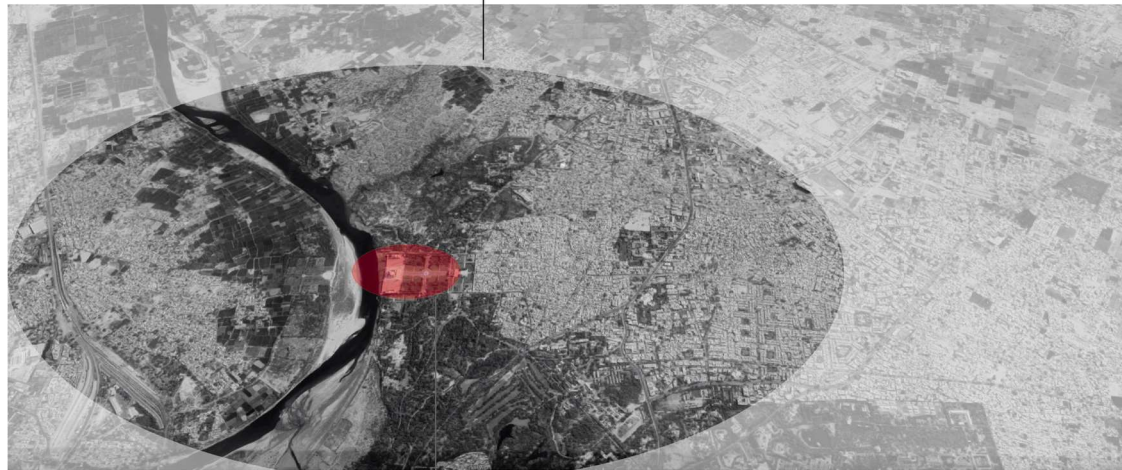


Chhatwani, Yashraj (2017)

<https://i.pinimg.com/originals/d1/12/49/d11249415989aeecebe119eb974e59d3.jpg>

www.youtube.com

PROPOSED REGULATED ZONE (UPTO 3km radius)



EXISTING REGULATED ZONE BY ASI



Keshav, DP (2015)

<https://in.pinterest.com/pin/368224430355434879/?p=true>

www.youtube.com

PANOROMIC AERIAL VIEW OF TAJ GANJ  
SHOWING THE HEIGHT RESTRICTION REGULATED TILL DATE

Source: Google



Table 5.4 Proposals

Garden no.	River front Gardens/sites	Proposals
East Bank Garden		
Garden 1	Bagh-i-Shah Nawaz Khan	
Status of Existence :Partially Exists Current Use: Residences Protection Status :Partially Protected (Ruins Protected)		<ol style="list-style-type: none"><li>1. Protection and conservation of ruins ( preparation of Conservation Management Plan /Site Management Plan)</li><li>2. Demarcation of the buffer boundary of protected site</li><li>3. Improve accessibility to Garden from Rambagh Garden Road( Hathras Road)</li><li>4. Improve access to the river</li><li>5. Interpretation of ruins as part of the Historic garden ( Site Interpretation Plan)</li><li>6. Develop nursery specializing in Mughal plant species as used in historic Mughal gardens and promote their marketing</li><li>7. Residents of Kushwaha market and surrounding areas need to be engaged in the upkeep of the historic garden through community outreach programs and workshops.</li></ol>
Garden 2	Buland Bagh	
		<ol style="list-style-type: none"><li>1. Restoration of the historic garden along with its water channel and authentic plantation scheme ( scientific investigations for site exploration are required)</li><li>2. Demarcation of the buffer boundary of protected site</li><li>3. Improve access to the garden</li><li>4. Improve access to the river</li><li>5. Residents of Kushwaha market and surrounding areas needs to be engaged in the upkeep of the historic garden through community outreach programs and workshops.</li><li>6. Develop nursery specializing in Mughal plant species as used in historic Mughal gardens and promote their marketing</li><li>7. Training and capacity building of the community youth and engaging them as custodians of heritage.</li></ol>
	Nur kiSerai	



Vision Document  
for Taj Trapezium Zone

Garden no.	River front Gardens/sites	Proposals
Status of Existence :Exists Current Use: Monument (Sarai) Protection Status : Unprotected		<ol style="list-style-type: none"> <li>1. Conservation and Restoration of the Serai</li> <li>2. Integrate the water channel, at present a nallah, into the landscape scheme.</li> <li>3. Improve access from the Rambagh Bagh Road to the Serai through sensitive design of road</li> <li>4. Provide accessibility to the river from the rear gateway of the Serai</li> <li>5. Adaptive reuse of the serai as a crafts haat</li> </ol>
Garden 3	Bagh-i-Nur Afsan (Ram Bagh)	
Status of Existence :Exists Current Use: Monument Protection Status :ASI Protected		<ol style="list-style-type: none"> <li>1. Conservation and authentic Restoration of the garden using the principles of Mughal Garden design</li> <li>2. Improve access to the garden from Rambagh Road to Garden.</li> <li>3. Provision of visitor amenities, signage and upgrading the parking</li> </ol>
Garden 4	Bagh-i-Zahanara( Zahara Bagh /Zora Bagh)	
Status of Existence :Partially Exists Current Use: Nursery /Residences Protection Status :Partially Protected		<ol style="list-style-type: none"> <li>1. Conservation and Restoration of the garden around the surviving ruins</li> <li>2. Corner chattris need to be conserved</li> <li>3. Developed as a community space</li> <li>4. Landscape improvement through urban design intervention of the ChhattaGhat</li> <li>5. Mughal plant species to be planted to evoke the memory of the space</li> <li>6. Green area to be protected from encroachments and change of land use from open space to residential</li> <li>7. Livelihood of people should be linked with the management of nursery</li> <li>8. Improve access to garden</li> </ol>
Garden 5	Unnamed garden	
Status of Existence :Lost Current Use: Residences Protection Status :NA		<ol style="list-style-type: none"> <li>1. Develop as a green public open space</li> </ol>
Garden 6	Chini Ka Rauza	





Garden no.	River front Gardens/sites	Proposals
Status of Existence :Partially Exists Current Use: Nursery Protection Status :ASI Protected (Tombs Protected)		<ol style="list-style-type: none"><li>1. Conservation and Restoration of the Chini ka Rauza and Kala Gumbad</li><li>2. Restoration of the historic garden along with its water channel and authentic plantation scheme (scientific investigations and site explorations are required)</li><li>3. Site development and landscape improvement of the area between Chini ka Rauza and Kala Gumbad as a community space</li><li>4. Improving accessibility from Ram- bagh road to the complex</li><li>5. Improve accessibility to the river from the precinct</li><li>6. Develop nursery specialized in Mughal plant species as used in historic Mughal gardens</li><li>7. Site interpretation of the Complex ( Chini ka Rauza, Kala Gumbad and nursery as part of one garden complex)</li></ol>
Garden 7	Bagh-i-Wazir Khan	
Status of Existence :Partially Exists Current Use: Nursery /Residences Protection Status :Unprotected		<ol style="list-style-type: none"><li>1. Restoration of the ruins</li><li>2. Improving accessibility from Ram- bagh road to the ruins</li><li>3. Provide access to the river</li></ol>
Garden 8	Bagh-i-Sultan Parvez	
Status of Existence : Partially Exists Current Use: Nursery /Residences Protection Status :Unprotected		<ol style="list-style-type: none"><li>1. Conservation and authentic Restoration of the Garden with the tomb of Sultan Parvez</li><li>2. Scientific exploration for the historic remains</li><li>3. Improving accessibility from Ram- bagh road to the complex</li><li>4. Provide access to the river</li><li>5. Site Interpretation Plan for the garden complex</li></ol>
Garden 9	Maqbaratimad-ud-Duala	
Status of Existence :Exists Current Use: Garden /Monument Protection Status :Protected		Improvement of parking facilities. Gandhi smarak should be opened to the public and developed as a public open space. Walls to be made transparent by designing a MS grill wall.
Garden 10	Bagh-i-Mausawi Khan Sadar	



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Garden no.	River front Gardens/sites	Proposals
Status of Existence :Partially exists), Current Use: Residences Protection Status : Unprotected	Exists(a dome roof structure Residences Unprotected	1. Restore the structure 2. Provide access to structure through school 3. Improve access to river
Garden 11	Bagh-i-Padshahi	
Status of Existence :Lost, Current Use: Railway station Protection Status :NA	Bagh-i-Padshahi	-----
Garden 12	Moti Bagh	
Status of Existence :Lost, Current Use: Residences Protection Status :NA	Residences	-----
Garden 13	Bagh Padshahi	
Status of Existence :Lost Current Use: Residences/Agricultural Protection Status :NA	Residences/Agricultural	1. Plant three rows of trees of the Mughal period along the riverfront to evoke the memory of the historic river-front gardens 2. Development control regulations to prohibit the change of land use from agriculture
Garden 14	Lal Bagh Padshahi	
Status of Existence : Lost Current Use: Residences/Agricultural Protection Status :Partially Protected (GyarahSidhi Protected)	Residences/Agricultural	Scientific investigation to include GPR surveys and other exploration techniques to recover the footprint of the historic gardens. Site Interpretation Plan
Garden 15	Char Bagh Padshahi	
Status of Existence : Lost Current Use: Agricultural Protection Status :NA	Agricultural	
Garden 16	Bagh-i-Bisht	
Status of Existence : Lost Current Use: Agricultural Protection Status :NA	Agricultural	
Garden 17	Bagh-i-MehtabPadshahi	
Status of Existence :Exists Current Use: Garden /Monument Protection Status :Protected	Garden /Monument	Planting of authentic plant species through phasing plans which phase out the inauthentic plant species Site Interpretation Plan Provision of parking and public amenities
West Bank Gardens		
Garden 18	Haveli of Khan-i-Duran	

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Garden no.	River front Gardens/sites	Proposals
Garden 19 Status of Existence :Partially Exists Current Use: Haveli, Gateway Protection Status : Unprotected	Haveli of Agha Khan	1.Conservation of remains of the garden 2.Adaptive reuse of the structure 3.Improvement of accessibility from the Taj Mahal - East corridor to the interior of the gardens 4.Afforestation in the area 5.Development of eco-trails 6.Site Interpretation 7.Landscape Improvement of East Corridor 8.Nullah to be integrated in the landscape design 9.Development of View point of Taj
Garden 20 Status of Existence :Structure Exists Current Use: Temple trust Protection Status : Unprotected	Rauza of Shah Jahan (Taj Mahal)	1.Conservation of remains of the gardens 2.Afforestation in the area 3.Nullah to become part of the landscape 4.Development of View point of Taj
Garden 21 Status of Existence : Exists Current Use: Garden/ Monument Protection Status :ASI Protected	Bagh-i-Khan-i-Alam	Preparation of Site Management Plan ( as per the recommended norms for World Heritage Site)
Garden 22 Status of Existence : Exists Current Use: Garden/ Monument Protection Status :ASI Protected	Haveli of Aslat Khan	1.Conservation of the historic garden elements which include the water channels, water systems, and historic plantation scheme. 2.Improved visibility and accessibility from the West gate of Taj Mahal throughsignage 3.Site Interpretation 4.Promote it as an extension to Taj Mahal to understand the waterworks of the Taj Mahal



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Garden no.	River front Gardens/sites	Proposals
Status of Existence :Lost Current Use: Shahjehan park Protection Status :NA		1. Interpret the gardens in the land- scape by emphasising the footprints of the various historic gardens and their ruins in the area through landscape design to enhance the experience of the visitor 2. Scientific investigation to include GPR surveys and other exploration techniques 3. Site Interpretation Pla
Garden 23 Status of Existence : Partially Exists Current Use: Shahjehan park Protection Status : Unprotected	Haveli of Mahabat Khan	
Garden 24 Status of Existence : Lost Current Use: Forest Land Protection Status : Unprotected ( Protected by Forest Department )	Haveli of Hoshdar Khan	
Garden 25 Status of Existence : Lost Current Use: Forest Land Protection Status : Unprotected ( Protected by Forest Department )	Haveli of Azam Khan	1. Interpret the gardens in the land- scape by emphasising the footprints of the various historic gardens and their ruins in the area through landscape design to enhance the experience of the visitor 2. Scientific investigation to include GPR surveys and other exploration techniques 3. Site Interpretation Plan
Garden 26 Status of Existence :Lost Current Use: Forest Land Protection Status : Unprotected ( Protected by Forest Department )	Haveli of Mughal Khan	
Garden 27 Status of Existence : Lost Current Use: Forest Land Protection Status : Unprotected ( Protected by Forest Department )	Haveli of Islam Khan	
	Paradise Park	Plant groves of indigenous trees known to have been planted in Mughal period to evoke the memory of the lost land- scape
Garden 28 Status of Existence :Exists Current Use: Monument Protection Status :ASI Protected	Agra Fort	
Garden 29 Status of Existence :Exists Current Use: Monument Protection Status :ASI Protected	Haveli of Dara Shikoh	1. Preparation of Site Manage- ment Plan ( as per the recommended norms for World Heritage Site)





Garden no.	River front Gardens/sites	Proposals
Status of Existence : Structure Exists Current Use: Monument Protection Status :ASJ Protected (Structure protected)		1.Conservation of haveli 2.Improve accessibility to Haveli 3.Efficient solid waste management system to be adopted to recover the historic nullah 4.Site Interpretation by enhancing the footprints of the garden through design of floorscape to evoke the memory of the lost garden 5.Adaptive Reuse 6.Open space in front of Dara Shikoh to be developed as a community open space 7.Urban Design Guidelines 8.Planting of indigenous trees along the river edge to recover the imagery of lost riverfront gardens when viewed from across the river 9.Change material of the road along the stretch to capture the footprint of the garden
Garden 30	Haveli of Khan-i-Jahan Lodhi	
Status of Existence : Lost Current Use: Residences Protection Status :NA		1. Urban Design Guidelines for facade fronting the river 2.Planting of indigenous trees along the river edge to recover the imagery of lost riverfront gardens when viewed from across the river
Garden 31	Haveli of Hafiz Khitmadgar	
Status of Existence :Lost Current Use: Residences Protection Status :NA		1.Urban Design Guidelines for facade fronting the river 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens
Garden 32	Haveli of Asaf Khan	
Status of Existence : Structure Exists Current Use: Residence Protection Status :Unprotected		1. Urban Design Guidelines for facade fronting the river 2. Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens
Garden 33 Garden 34 Garden 35	Haveli of Alamgir	



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Garden no.	River front Gardens/sites	Proposals
Garden 36	Haveli of Sasat	1.Urban Design Guidelines for facade fronting the river 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens
Garden 37	Haveli of Jafar Khan	1.Urban Design Guidelines for facade fronting the river 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens
Garden 38	Rauza of Sasat, tomb of Shaista Khan	1.Urban Design Guidelines for facade fronting the river 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens
Garden 39	Haveli of Wazir Khan	1.Urban Design Guidelines for facade fronting the river 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens
Garden 40	Haveli of Mukim Khan	1.Urban Design Guidelines 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens 3.Johns Mill area needs to be developed as a public amenities area and a major node of the city with restaurants, crafts centre and recreation without compromising on the spatial and visual integrity of the site and its significance as an outstanding example of industrial heritage. 4.Improve access
Garden 41	Haveli of Khalil Khan	1.Urban Design Guidelines 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens 3.Johns Mill area needs to be developed as a public amenities area and a major node of the city with restaurants, crafts centre and recreation without compromising on the spatial and visual integrity of the site and its significance as an outstanding example of industrial heritage. 4.Improve access
Garden 42	Bagh-i-Rai Shiv Das	1.Urban Design Guidelines 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens 3.Johns Mill area needs to be developed as a public amenities area and a major node of the city with restaurants, crafts centre and recreation without compromising on the spatial and visual integrity of the site and its significance as an outstanding example of industrial heritage. 4.Improve access
Garden 43	Bagh-i-Hakim Kazim Ali	1.Urban Design Guidelines for facade facing river 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens
Garden 44	Rauza of Zafar Khan	1.Urban Design Guidelines for facade facing river 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens

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Garden no.	River front Gardens/sites	Proposals
Status of Existence :Partially Exists Current Use: Tomb and Mosque , Gaushala along the river Protection Status :ASI Partially Protected		1.Urban Design Guidelines for facade facing river 2.Planting of indigenous trees along the river edges to recover the imagery of lost riverfront gardens
Garden 45	Chattri of Jaswant Singh	
Status of Existence :Exists Current Use: Monument Protection Status :ASI Protected		1.Site Interpretation Plan - signage and interpretation 2.Prohibit use of riverfront as a garbage disposal ground

43. In Taj Dharohar kshetra, not the land use but the historic significance needs to be taken up for delineation the character zones to formulate multi-nodal precinct structure. The nodes to vary from ecological precincts encompassing Baghs and nurseries, craft and cultural districts, existing non-historic residential localities and protected monuments and view corridors/vantage points. Each zone needs to then identify the key imageable component followed by edge relation with other distinct nodal zones.

44. Within Taj Ganj, the four katras to be considered as multi-nodal functional zones which can enhance the experience based on the historic function of each katra such as perfume manufacturing, Pachchikari, etc.

45. Re-instate the visual continuity and physical integrity of the river-edge so that the riverfront is read as one cohesive entity. Restoring the gardens would help enhance the imagery of the historic river front as a garden district.

46. The heritage structures within Shahjahan Park need to be conserved and interpreted to bring back the memory of the river facing gardens.

47. Indigenous and historically authentic species need to be planted in Paradise Park to enhance the historic character, increase the green cover and improve the imageability of the riverfront

48. Urban Design guidelines need to be framed for the Belanganj facade area, to preserve the character of the riverfront.

49. Delineation and revision of Taj Heritage Precinct based on ground conditions through a detailed survey, while incorporating the already existing Taj Dharohar Kshetra demarcated in the Master Plan.

50. Identified different character zones in the Precinct and proposing area specific development guidelines.

51. Pedestrian oriented development with local and sustainable modes of transport should be encouraged.

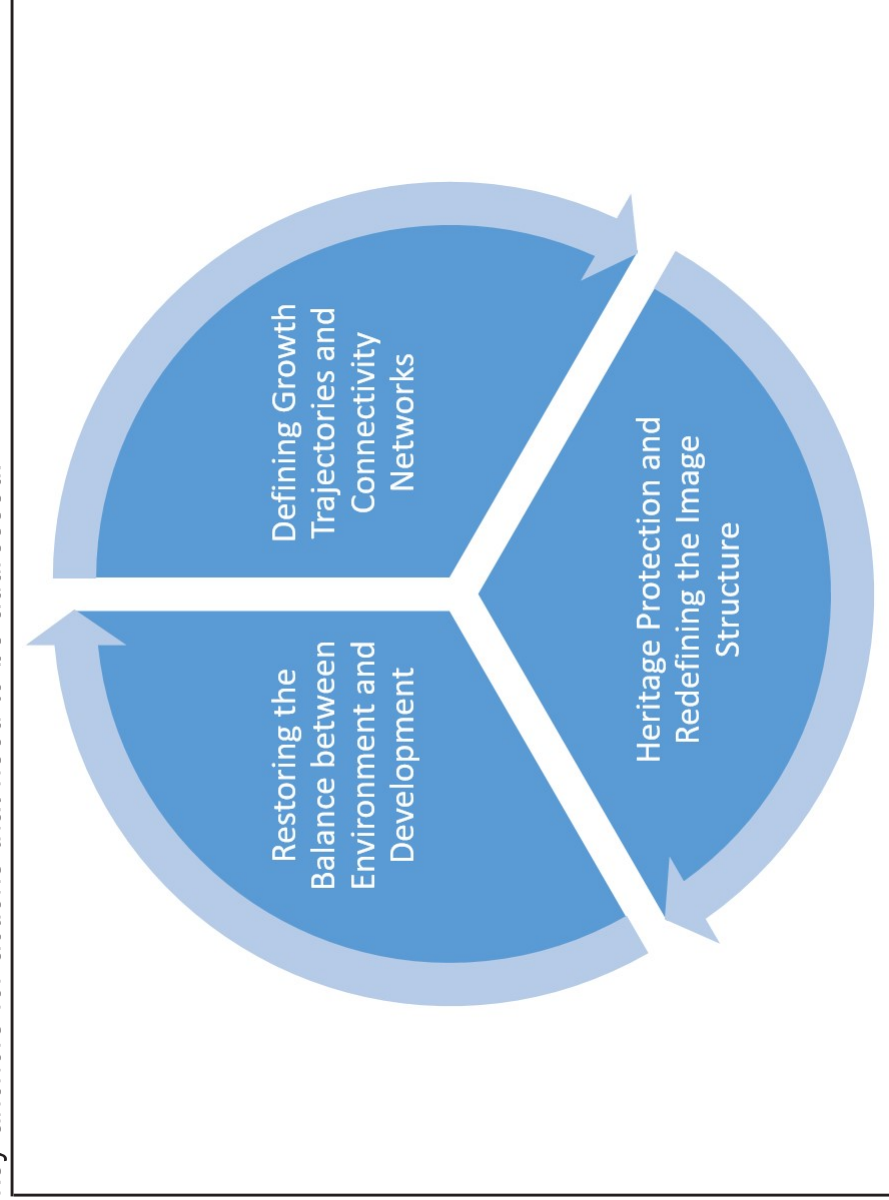


52. Conserving the unique building and spatial typologies in the entire precinct portraying a distinctive image and character of the neighborhood and its communities.
53. Detailed urban design and conservation guidelines to accommodate historicity and contemporary urban development in the precinct. The regulations and guidelines must be contextual and differ as per the nature, history and socio-economic profile of the settlement.
54. A differential character zone and must be maintained as per the location and context throughout the demarcated heritage precinct and provisions for place making and detailed urban design guidelines must be included in the statutory documents such as master plan and Building regulations.
55. Any recommendation for existing settlements falling under Taj Heritage Precinct must be contextual and must consider each settlement's valid and legitimate histories, socio-economic profile and differential tenurial rights.
56. A shift in focus is required from tourism to a holistic and balanced approach towards the precinct and its surrounding.
57. More viable, practical and innovative solutions must be provided to deal with water pollution in Yamuna.



## 5.5 Comprehensive Action Plan

The Taj Trapezium Zone has been declared as sensitive zone , especially with respect to air pollution. It is thus necessary to monitor all activities that can cause air pollution in the area. The Zone has within it World Heritage Sites and is also of rich cultural significance with the Braj Region forming a large part of it. The resident population of the area depends on the potential that these resources offer. With population growth and natural resource degradation and depletion, the following would be the key anchors for actions that need to be addressed:



The action plan brings together multiple strategies and recommendations presented in the report. This is also an exercise to bring multi-sectoral issues under an umbrella to formulate one specific action into clearly defined step. Each action is thus an interdisciplinary approach to set in processes of change either at Regional, Agra city or Taj precinct scale. The actions are proposed for primarily three time frames short(1- yrs), Medium(3-7 yrs), Long(7+ yrs) along with different possible agencies involved to carry out the task. It is further categorised under various aspects such as Legal, Policy, Planning, Implementation, Monitoring, Design, Education, Documentation etc. to create a better understanding of the nature of action.



Table 5.5 Comprehensive Action Plan

S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
<b>Regional Scale</b>						
1	Strengthening of TTZ Authority - creation of departments to address all aspects ( Air and Water Pollution, Waste management, Forest, Built Heritage, Land Use, Building regulations, Industries, Roads and Transport, Irrigation and Flood Control, Ground Water, Health, Education etc. ). Authority to have Zonal branch offices at each District Head Quarter for better coordination with Local Government.	Central and State Government	Legislative	■		
2	Demarcation of area upto 30km radius from Taj Mahal for intensive air pollution control – actions to be decided after scientific study	Central and State Government	Legislative, Planning, Design, Implementation and Monitoring	■		
3	Carrying Capacity Studies to be undertaken to establish holding capacity of towns, tourist destination and heritage sites	Central and State Government	Legislative, Planning,	■		
4	Control and Monitoring of Air Pollution in TTZ by setting up new monitoring stations	Central, State and Local Government	Planning, Design, Implementation and Monitoring	■		

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S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
5	Promotion of Clean and green Fuel in Urban and Rural Areas	Central, State and Local Government	Legislative, Planning, Design, Implementation and Monitoring	■	■	
6	Control and Monitoring of Polluting Industries in TTZ	Central, State and Local Government	Legislative, Implementation and Monitoring	■	■	■
7	Rejuvenation of River Yamuna through control of pollution and eco-restoration and maintenance of environmental flow	Central, State and Local Government	Legislative, Planning, Design, Implementation and Monitoring	■	■	■
8	Demarcation and Protection of Yamuna flood plain in the TTZ region	Central, State and Local Government	Legislative, Planning, Implementation and Monitoring	■	■	■
9	Restoration of existing and construction of Ground Water Recharging structures in urban and rural areas	State and Local Government	Legislative, Planning, Design, Implementation and Monitoring	■	■	



S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
10	Reclamation of saline and alkaline lands	State and Local Government	Legislative, Planning, Design , Implementation and Monitoring	■	■	
11	Promotion of Agro Forestry, Social Forestry along the major roads(NH, SH etc.),canals, village and common lands and shelter-belts near industrial estates.	State and Local Government	Planning Implementation and Monitoring	■	■	■
12	Creation of windbreaks to control dust laden winds	State and Local Government	Legislative, Planning, Design , Implementation and Monitoring	■	■	
13	Preparation of Protected Area Management Plan for Keetham Sanctuary	State and Local Government	Planning Implementation and Monitoring	■		
14	Capacity building , and Skill Development under Green Skill Development Program ( GSDP ) for protection of environment	Central. State and Local Government	Legislative, Planning Implementation	■	■	■

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S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
15	Prepare GIS based database of built heritage resources, creative industries, water and vegetal heritage resources in the TTZ region (both state protected and ASI protected) through documentation, mapping and detailed inventories, Grade all the heritage assets inventorised based on their significance and values to enable different protection regimes and norms.	Local Government	Documentation Conservation	■		
16	Heritage precincts need to be delineated based on a comprehensive data base compilation and concentration of heritage assets, and notified through Master plans as special areas in all the settlements and integrated with the Master plan proposals	Local Government	Legislation	■		
17	An Urban Heritage cell for conservation of historic buildings and precincts should be set up within each municipality. The task of conservation of heritage to be shared by all urban governance bodies and coordinated and monitored by the Heritage Cell.	Central, State and Local Government	Policy, Planning	■		
18	Heritage centric, site specific byelaws and urban design guidelines need to be framed for these heritage precincts.	Local Government	Legislation	■		
19	Special byelaws and guidelines need to be framed for prohibited and regulated zones around ASI protected sites as per the regulations of the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010.	Central and State Government	Planning, Legislation	■		
20	Capacity building of the urban local bodies to tackle heritage related issues in a sensitive manner needs to be enhanced through workshops, training and outreach programmes	State and Local Government	Policy, Education	■	■	■

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S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
21	Environmental impact assessment and Heritage Impact assessment to be done of the existing and proposed development around these ecologically sensitive heritage sites and mitigation measures proposed.	Central and State Government	Planning	■	■	■
22	All historic gardens, baghs and bagichis in the region encompassing ASI protected, State protected and unprotected sites, have to be conserved using internationally established norms as spelt out in the ICOMOS Florence Charter on Historic gardens.	Central. State and Local Government	Conservation	■	■	
23	Social and physical infrastructure within and around the identified heritage precincts needs to be improved to improve quality of life of the communities residing within and around these precincts. Infrastructure to include provision of public amenities, proper solid waste management practices, street furniture, lighting, walkways, signage and interpretation.	State and Local Government	Planning Design	■	■	
24	Capacity building and promotion of cultural entrepreneurship among local community such as site interpreters, tourist guides at heritage precinct level and along identified heritage trails.	Local Government	Policy Education	■	■	
25	Neglected and relatively unknown heritage sites need to be developed with tourist information centres/kiosks, interpretation centres and promoted to help attract visitors	Local Government	Design	■	■	■
26	Edge treatment plan and urban design guidelines for demarcated historic core, character zones and riverfronts	Local Government	Design	■		

*Munir Ahmad*

S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
27	Preparation of urban design guidelines and streetscape for major movement corridors	Local Government	Design	■		
28	Preparation of TTZ Freight Transport Plan	Local Government	Planning Design	■		
29	Preparation of Comprehensive Mobility Plans for all settlements with population 1-5 lakhs and Low Carbon Mobility Plans for all settlements with population >5 lakhs	State and Local Government	Planning Design	■		
30	The identified potential tourist circuits in the region must ensure accessibility to all key destinations through well-organized electric public transport modes.	State and Local Government	Planning Design	■		
31	Segregated primary pilgrimage routes and retrofit the roads with equal or higher priority for pedestrians by developing pedestrian friendly walkways.	State and Local Government	Planning Design	■		
Agra City Scale						
1	Preparation of integrated Master Plan for Agra	State Government and Local Government	Planning, Design, Implementation and Monitoring	■	■	■



S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
2	Formulation of Heritage Development Plan in sync with the Master Plan of the City and Tourism Infrastructure Plan	State Government and Local Government	Planning, Design, Implementation and Monitoring	■		
3	Encouraging Creative and household Industries like petha, stone inlay, zardosi, etc.	State Government and Local Government	Planning, Design, Implementation and Monitoring	■		
4	Setting up of new Air monitoring stations as per Land use and activity.	State Government and Local Government	Planning Implementation and Monitoring	■	■	■
5	Setting up of new Water monitoring stations at outflow of drains.	State Government and Local Government	Planning Implementation and Monitoring	■	■	■
6	Adoption of Decentralized Water management system in areas where STP are not present. – Constructed wetlands and bioremediation systems	State Government and Local Government	Planning Implementation and Monitoring	■	■	■
7	Development of Greenways for Landscape enhancement.	State and Local Government	Planning Implementation and Monitoring	■	■	■

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S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
8	Decentralized Solid Waste Management , E-waste management, CD waste management and Adoption of Recycling and Reuse systems	State and Local Government	Planning Implementation and Monitoring	■		
9	Desilting of storm water drains	Local Government	Implementation and Monitoring	■		
10	Assessment of Biodiversity Index of Agra to facilitate conservation of biodiversity	Local Government	Conservation	■		
11	The historic core of Agra needs to be nominated as a World Heritage City by UNESCO. This would require legal and management systems to be developed as required for the nomination dossier.	Central, State and Local Government	Conservation	■	■	
12	Within the city of Agra various heritage precincts with different thematic content need to be delineated and protected. Special byelaws and development guidelines need to be formulated for identified heritage precincts which maintain their character Urban Design Guidelines for the identified character zones.	Central, State and Local Government	Planning Legislation	■		
13	Site Management Plans for the World Heritage Sites need to be prepared.	Central, State and Local Government	Conservation	■		

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S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
14	Carrying capacity of all heritage sites need to be conducted in order to plan out heritage trails.	Central, State and Local Government	Planning, Conservation	■	■	
15	Build capacities of local communities residing in the vicinity or within heritage precincts as tourist guides at heritage precinct level for identified trails in heritage precincts		Policy Planning Education	■	■	■
16	Given the quantum of heritage in Agra different hierarchies of trails need to be planned out and itineraries worked out for various time spans available to tourists. Trails have to be designed at both pedestrian and vehicular scales.	State and Local Government	Planning	■	■	
17	Revision of Development control regulations responsive to city context, character zones, historic core, Taj heritage precinct etc.	State and Local Government	Planning, Legislation	■		
18	Streetscape Improvement Plan for the City starting with Historic core and other character zones	State and Local Government	Planning, Design	■		
19	Conservation of Yamuna river and design of identified public access points	State and Local Government	Planning, Design	■	■	■



S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
20	Building norms must have mandatory provision of parking at each individual's house.	State and Local Government	Planning Legislation	■		
21	Advocate and promote vehicles using clean and environment friendly fuels like electric and hydrogen to decrease the environmental footprint from transport modes. In the initial stage the existing public transport fleet needs to be replaced with electric buses. Further, hop-on-hop-off tourist buses (buses) must be introduced covering the other less explored tourist spots. The requisite charging infrastructure for electric vehicles must be developed parallelly.	State and Local Government	Planning	■	■	
22	Restrict heavy vehicular/truck movement within the city centre by relocating the exiting wholesale/mandi activities to the outskirts or other settlements of Agra district. Internal movement of goods should be restricted to LCV's and small pickup cargo vehicles at specific times of day and night.	State and Local Government	Planning	■		
Taj Precinct Scale						
1	Detailed Local area plan of the heritage precinct with specific focus on creating an integrated and inclusive public realm and infrastructure with robust community participation and public awareness programmes	State and Local Government	Planning, Design, Education	■	■	
2	Comprehensive plan and design for creating diverse livelihood opportunities and integrating traditional livelihoods of the community at Tajganj	State and Local Government	Planning, Legislation	■		

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S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
3	Preparation of urban design guidelines for conservation/retrofitting and redevelopment of heritage building and spatial typologies at Tajganj and other residential neighbourhoods	State and Local Government	Design	■		
4	Streetscape improvement plan and urban design guidelines for all the major movement corridors to create a safe and inclusive environment	State and Local Government	Planning, Design	■		
5	Other heritage sites within the precinct need to be conserved and interpreted to take visitor pressure off Taj. The various heritage sites along the river front precinct need to be developed as nodes to accommodate various functions of the city which includes development of open spaces as community open spaces and interpretation for visitors.	State and Local Government	Design	■		
6	More shade giving indigenous trees need to be planted along the newly designed east gateway entrance axis.	State and Local Government	Design	■		
7	Tourist guides from the local community need to be trained and imparted with knowledge of Mughal gardens and plants to be able to conduct heritage walks in these sites.	State and Local Government	Policy Education	■	■	
8	The historic gardens BulandBagh, ZaharaBagh, ChinikaRauza, Bagh e Wazir Khan, Bagh e Sultan Parvez, partly converted to nurseries need to be developed as centres of Mughal plant industry for sale and marketing of Mughal plants as a tourism product.	State and Local Government	Policy Design Education	■	■	

*Munir Ahmad*

S. No.	Actions	Agencies	Action Type	Time Frame		
				Short (1-3 yrs.)	Medium (3-7 yrs.)	Long (7+ yrs.)
9	Access to river front heritage sites needs to be improved and parking provided.	State and Local Government	Planning Design	■	■	
10	Prevention of densification of Civil Lines and Cantonment areas.	Central, State and Local Government	Legislative Planning Implementation and Monitoring	■	■	■
11	Delineated Taj Precinct zone should be developed as a pedestrianized zone, The pedestrian walkways should be shaded and as per the guidelines including provision for universal accessibility with clearly demarcated zones i.e. static pedestrian activity areas along shops, multi-utility areas for street furniture, amenities like toilet blocks, drinking water, information kiosk etc. and designated cycling infrastructure.	State and Local Government	Planning Design	■		
12	Mobility in this zone should preferably be pedestrianized and at places restricted movement only through electric IPT's and cycling be allowed. Further designated parking infrastructure also needs to be provided.	State and Local Government	Planning Policy	■		

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