

# INCEPTION REPORT

May 2019

## PREPARATION OF BRAJ DEVELOPMENT PLAN FOR BRAJ REGION UTTAR PRADESH

Prepared for:  
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# 1 PROJECT BACKGROUND

The Braj Bhoomi, located in the Ganges-Yamuna Doab region holds a religious and mythological significance and therefore, experiences influx of pilgrims and tourists, throughout the year from various parts of the country. The BRAJ region in the last 50 years, has experienced haphazard growth and deterioration of the existing heritage. In addition, the pressure on existing infrastructure due to the increasing number of tourists visiting the region every year and poor management are other key issues which can be observed. In order to ensure planned and coordinated growth of the BRAJ Planning Area, we need to regulate the development process in these urban and rural settlements, in a way that these settlements continue to serve their purpose as a place of great heritage & cultural values to national & international tourists. The development process needs to be linked with improvement in infrastructure and in employment opportunities in the region.

Under the Uttar Pradesh Braj Niyojan Aur Vikas Board (sanshodhan) Adhiniyam 2017 (U.P. Act No. 3 of 2017) the region is spreading across 4000 sq.km.. Uttar Pradesh Braj Teerth Vikas Parishad (UPBTVP) has been constituted for the preparation of a plan for this region to preserve, develop and maintain the aesthetic quality of heritage in all cultural, ecological and architectural hues. UPBTVP has been founded for co-coordinating and monitoring the implementation of this plan and for evolving policies for integrated tourism development and Heritage conservation.

Therefore, the purpose here is to prepare a Regional Development Plan with estimated land & infrastructure requirements for various tourist and pilgrimage activity, based on changing demands; supporting the regional population and developing planning guidelines, policies, and development code.

## 1.1 Aim

The Regional Development Plan of BRAJ Planning Area focuses on integrated development & economy of the region, by capturing the potential Tourism/ Pilgrimage activities and upgrading the social, physical, cultural and ecological landscape of the region.

## 1.2 Objectives

Keeping the vision of the project in mind, the main objective of this project is to provide a sustainable vision document, land use map and road map for balanced growth of BRAJ Planning Area by regulating present and future spatial development envisaged for the horizon year of 2040. Specific objectives and deliverables within the plan have been detailed out and elaborated as shown below:

- i. To reinforce the image of the Mathura region through conservation of existing heritage structures and promoting tourism facilities
- ii. To strengthen the economic base and generate adequate employment opportunities through proper utilization of potential tourism and available resources
- iii. To provide state-of-the-art infrastructure and social facilities so as to cater to the needs of tourist visitors and to enhance the quality of life of the local people of the region.
- iv. To develop BRAJ Planning Area as a 'Tourism Hub' with identification of certain pockets for local area development

- v. To create effective implementation strategies that promotes equitable & inclusive development

### 1.3 Approach for Planning

Considering the background of the project, its aim, and objectives; adoption of certain principles and approaches for the balanced planning of the BRAJ regional are required to be prepared, which are as listed below:

1. The Regional Development Plan aims to proffer solutions to the challenges faced by the Braj region. The multidisciplinary approach proposed to be adopted shall ensure a conceptual and functional, inter-sectoral coherence, minimising conflict.
2. As Braj is a predominantly rural area, with one distinctly urban center (Mathura - Vrindavan) and while few urbanised villages are now recognised as Nagar panchayats, even their character is predominately rural. Therefore, this plan needs to balance the needs and aspirations of both the rural and the urban segment.
3. The development plan will need to address the issue of overlapping jurisdictions of bodies including MVDA, YEIDA, Municipal Bodies & Panchayati Raj Bodies and position/ establish UPBTV as the key driver of development in this region.
4. The proposed development plan shall be imbued with an understanding of the cultural and ecological landscape of the Braj Region which is its greatest asset. The conservation of cultural & ecological heritage and sensitive development which respects this heritage shall be the touchstone which shall determine the inclusion of specific proposals in the Development Plan.
5. The Braj Region and the association of its physical landscape with the life of Shri Krishna draws a large number of pilgrims to both Mathura and Vrindavan as well as to the settlements and locations spread in the hinterland while pilgrimage brings spiritual solace to the pilgrim, it is also an opportunity for the resident both in terms of linkages to the world at large and in terms of the economic benefits it brings. It shall be the endeavor of this plan to ensure an equitable spread of these benefits to the residents of Braj.
6. This Development Plan is the first of its kind for the region needs to lay down the foundations for robust planning and implementation mechanism, an institutional framework which shall serve the long-term needs of Braj, particularly incorporating within itself methods of feedback gained during its implementations to further refine future plans.
7. At the Macro (Regional) scale the Development Plan shall formalise the spatial structure for the region and address Land-Use strategies which shall steer the future development of the region.
8. The broad focus areas of the Development Plan in the Rural Segments of the planning area shall be the provision of Social & Physical Infrastructure (particularly Water & Sanitation) and creation of a sustainable tourist infrastructure that includes community networks in the operation and upkeep of the proposed infrastructure.
9. In the urban segment, strategies for planned growth, up-gradation of urban infrastructure networks to cater for current and future growth, housing and generation of livelihoods shall be incorporated.
10. At the conclusion of this planning process, a shelf of prioritised, sector-wise projects shall be identified for implementation. This may not be a comprehensive list; however, it shall identify focus areas which require intervention.
11. While it is beyond the scope of this Development Plan to provide specific design and engineering solutions to specific site level issues, the identification of areas of intervention and broad

guidelines governing the nature of the interventions shall be outlined.

12. However, due to the unique character of the region and the strong focus on its conservation, this Development Plan proposes to include within it illustrative Micro interventions which clarify the intent of the Shelf of Projects. These shall provide examples of desirable best practices in Urban Design, Architecture and Engineering, most suitable to this region.

## **1.4 Scope of Work**

UPBTVP has detailed out a list for the scope of the services for the preparation of the Development Plan for the Braj Region. The list is as follows:

1. Regional framework with identification of rural and urban centers.
2. Population and employment.
3. Policies pertaining to Housing, trade and commerce, Industry and tourism development.
4. Environmental sustainability of the region.
5. Land use plan.
6. Road and Transportation plan for the region.
7. Conservation of built heritage and identification of heritage zone and policies.
8. Urban design and development controls to maintain and enhance the character of the region.
9. Social infrastructure.
10. Physical Infrastructure.
11. Review and monitoring framework

## 1.5 Methodology

This section elaborates the activity structure and corresponding methodology adopted for the preparation of the Regional Development Plan for the BRAJ Region, based on the objectives and scope of work provided by UPBTVP. An overview of these approaches has been detailed out stage-wise, as following:

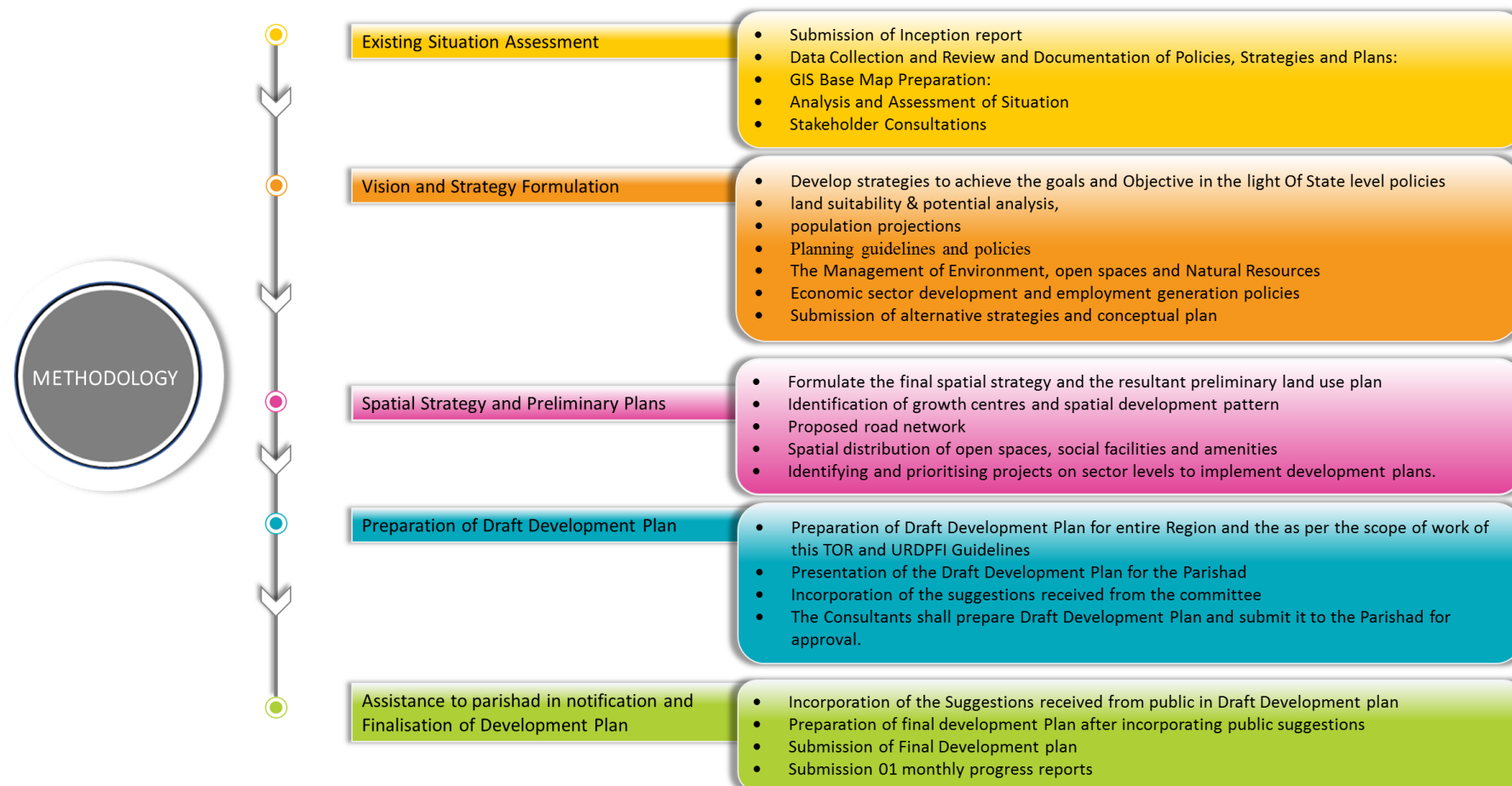


Figure 1: Methodology

### 1.5.1 Stage 1: Existing Situation Assessment

This stage will focus on the initiation of the Development Plan preparation and bringing all spatial / no spatial information of the planning region to one platform. The scope of work in this stage is a comprehensive assessment of the existing situation and identification of the general trends of socio-economic development at the regional level. Furthermore, the stage will concentrate on the assessment of available data and information and accuracy of this data in terms of quantity, quality and its adequacy for the purpose of the preparation of the intended Development Plan. Therefore, the Consultants shall collect all available data and conduct all necessary surveys and researches as described in this Stage and as required for the assignment.

#### 1) Project Team Mobilization and Initiation

The project team shall be mobilized and reconnaissance survey shall be done to understand the planning area.

#### 2) Finalization of Methodology & Work Plan

The methodology and the work plan to be followed for the project shall be elaborated that will guide in timely completion of the project.

#### 3) Preparation and Submission of the Inception Report

The Inception Report shall describe the conceptual framework planned for undertaking the development plan.

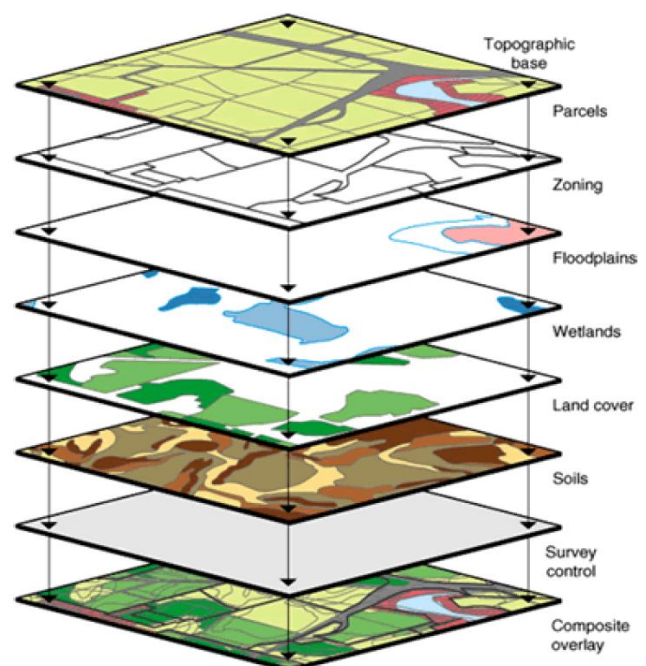
#### 4) Data Collection

##### A. Secondary Data Collection

Secondary data will include the information available from other departments, government authorities and organizations, which will cover the basic profile of the towns such as population, geography, economy & administrative units. Data Collection from other different government agencies/line departments and research institutes will also incorporate Documentation of Policies, Strategies, and Plans.

Furthermore, other spatial data i.e. various infrastructure networks will also be collected to illustrate the baseline profile of Planning Area, in form of maps, images, details related to location & geography of the place, distribution of land use/land cover in the planning area.

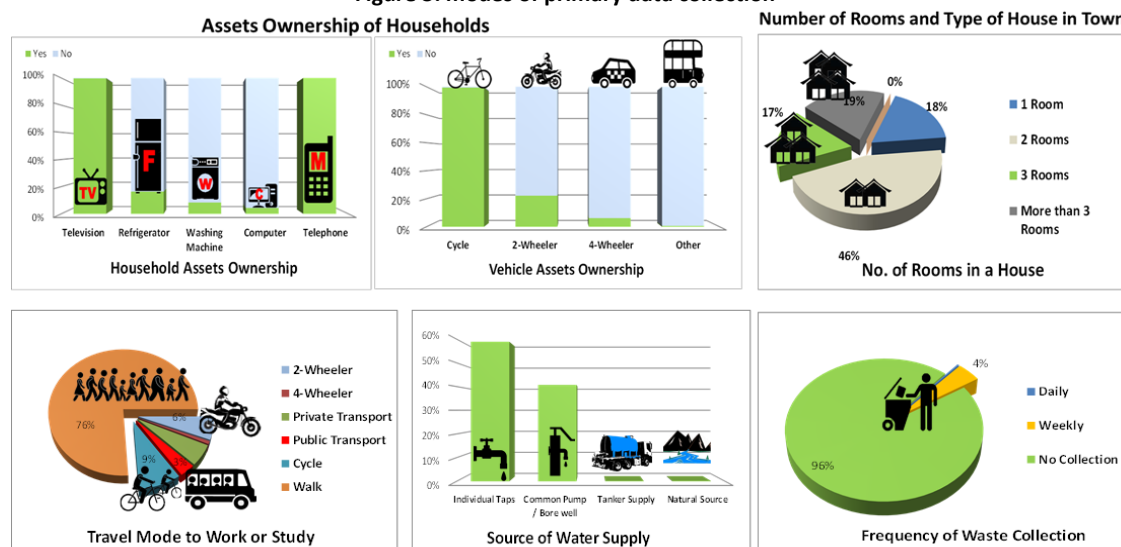
Figure 2: Layering of a base map



## B. Primary Data Collection

This task shall comprise Household Surveys, Traffic Surveys, DGPS Surveys, Socio-Economic Surveys, and Tourism Surveys. The team shall prepare detailed survey sheets before going on the field and get it approved by the authority.

Figure 3: modes of primary data collection



**Household Survey-** The main purpose of the Household Survey will be to assess the socio-economic conditions prevailing in the project area. The questionnaire will cover various components like household profile (HH size, age profile & gender composition), employment & economic profile, condition of existing social and physical infrastructure facilities, poverty profile, etc. This survey will also help us in identifying the gaps prevailing in the existing infrastructure facilities, both social and physical, and categorize the issues are most important and need to be addressed on the urgent basis to improve their livelihood, living environment and the quality of life of the local people. The sample size for the household survey will be 500 households and the distribution of samples will be finalized after discussing it with the authority.

**Tourism Surveys-** Information about the tourism industry and tourists must be available for planning and decision-making. Hence, the tourism survey for BRAJ planning region will provide the information about tourists- why they chose BRAJ as their destination, how much they spent money, what they spent that money on and whether the visit was up to their expectations, etc. In order to conduct this survey, tourists with a sample size of 500, will be interviewed across the region.

**Socio-Economic Surveys at certain retail/commercial pockets with a sample size of 200 individuals** will be carried out to examine the impact of tourism activities prevailing in the region.

**Traffic Surveys-** For the purpose of Development Plan Formulation of BRAJ region, certain Basic Standard Transport and Traffic surveys will be carried out in the planning area. The activity will include surveys such as- Road Network Inventory, Traffic Volume Count, Pedestrian Volume Count, Bus Stop Survey & Cordon Point Survey at various locations.



## 5) Preparation of GIS base map

Preparation of an accurate and updated Base Map is the first and foremost activity for the preparation of Master Plan. Base Map forms an important and prime database for review of the existing condition. Base Map refers to the most accurate spatial database within a data system that depicts the fundamental map elements, such as topography, political divisions, cadastral divisions, roads, water bodies, etc. It also serves as a reference system for integrating other spatial information with a higher level of accuracy. The different stages involved in the preparation of the Base Map have been described below:

### STEP 1: Boundary Identification with census maps

The updated census maps will be collected for the year 2011 for all the town and villages covered under project area and their village boundary will be generated from these census maps. The overall project boundary will also be identified using census maps.

### STEP 2: Procurement of Bhuvan satellite map, JSAC & SRTM

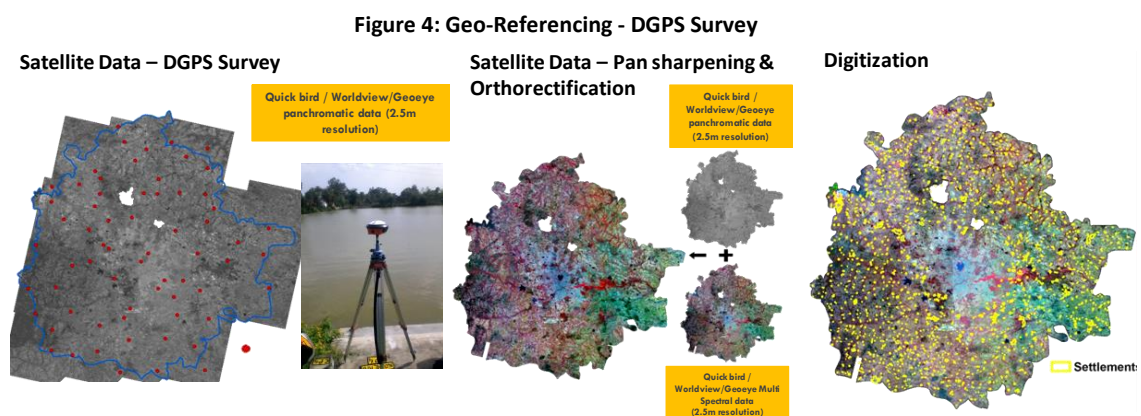
The satellite map of the project area is collected from Bhuvan website and the same has to be processed according to the requirement.

### STEP 3: Digital Ground Control Points Survey (DGPS) Town boundary survey

The survey of the town boundary is done using the DGPS survey along with the government officials and local people of the town to identify the extent of the project area boundary.

### STEP 4: Geo-referencing

Geo-Reference means to associate something with locations in physical space. The term is commonly used in the geographic information systems field to describe the process of associating a physical map or raster image of a map with spatial locations. The geo-referencing of the map was done using the co-ordinate reference system.



### STEP 5: Existing land-use survey

The detailed existing land-use survey of core areas for the urban centers and overall survey for the rural areas is carried out to identify the key physical features viz. natural features like river and water bodies; and man-made features; residential areas, commercial areas, public buildings,

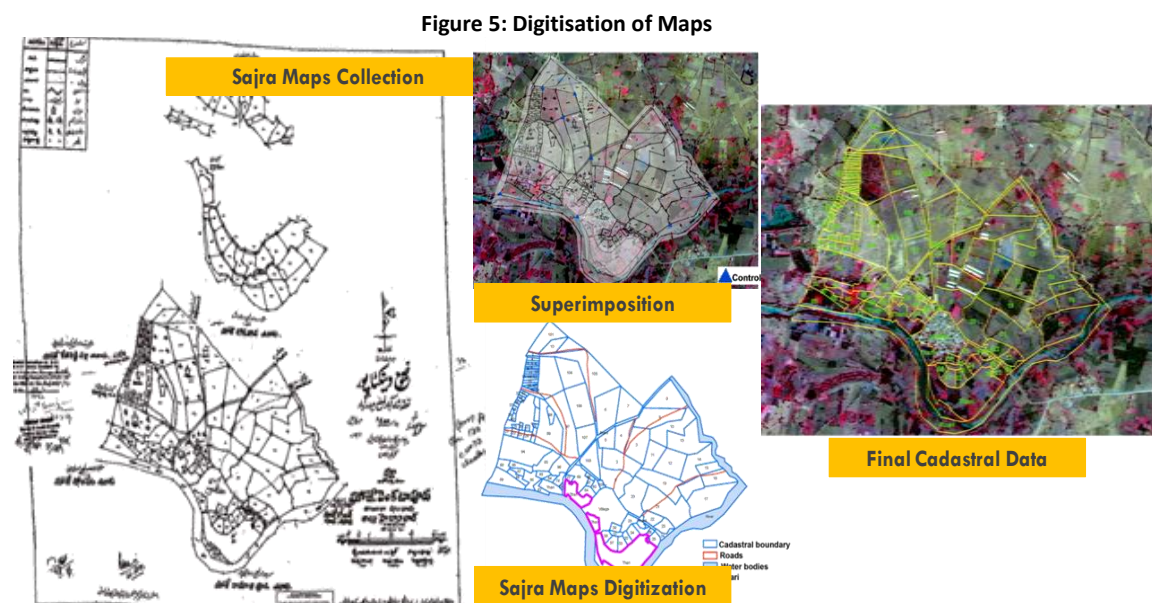
important structures/landmarks, roads (National and State Highways) and Railway lines; Agriculture, Waste-Land and Barren Land, etc.

#### **STEP 6: Primary Ground Verification**

First level ground verification/truthing will be done to verify the land-use map prepared from the existing land use survey above.

#### **STEP 7: Mouza Procurement, Digitization of Revenue Plots & Super imposition of Cadastral maps & Bhuvan satellite map**

Various mouza maps for the project area are collected from Guljar bag press Patna. In the following stages, collected mouza maps are stitched and digitized to extract the revenue plots along with revenue numbers. Super imposition will be done of cadastral maps & Bhuvan satellite map in order to generate the geo-referenced preliminary base map with revenue details.



#### **STEP 8: Preparation of preliminary base-map**

The preliminary base map is prepared through the above mentioned rigorous process and administrative boundary will be generated from this preliminary base-map.

#### **STEP 9: Ground Verification / Truthing**

Ground verification/truthing is done to verify the preliminary base map with the ground reality.

### **6) Assessment of Socio-Economic Data**

Assessment of Socio-Economic Data will incorporate demographic, economic, social and cultural aspects such as population, employment, industries, tourism, etc. and overall trend pattern. This analysis will help in identifying the quantitative and qualitative measures required for the socio-economic well-being of the local people. In addition, assessment of major survey outcomes will also be studied in the BRAJ region through thematic mapping.



## **7) Assessment of Physical Infrastructure**

The provision of adequate physical infrastructure is fundamental to ensuring people are safe, healthy and productive in the community. This segment will focus on existing water supply systems and network, electricity supply and network/power, sewerage system, telecommunication, solid waste treatment facilities, public toilets/sanitation, etc. The existing situation in planning area shall be analyzed and gaps will be identified in order to develop the strategies to cope up with the future requirement of these services in the region as per increasing population.

## **8) Assessment of Social Infrastructure**

This segment will include Social Infrastructure facilities pertaining to Health, Education, Sports Facilities, Socio-cultural activities, Communications, Security and Safety, and Other Community Facilities pertaining to Recreation, Religious activities, Social Congregations and Community Events, Cremation/ Burial Grounds, etc.

## **9) Finalization of Base-map with Existing Land-use map**

Once the base map is prepared and the land-use map is finalized through surveys on ground, to ascertain where the city is at present, its growth potentials and issues to be taken into account while planning for it. Existing land use analysis encompasses the review of previous planning efforts viz. development plans, master plans, etc. (if any) and existing land uses, their nature and extent. To undertake the analysis of the implementation of previous planning efforts as mentioned above and to prepare a new Development Plan / Master Plan, major input is obtained from the present base map and land use scenario of the city.

## **10) Land Suitability Analysis and Development Potential Scenarios**

On the basis of existing land features and the existing development of land, a land suitability analysis shall be carried which shall help demarcate the land suitable for future development. Land Suitability & Potential Analysis is a process by which the fitness of a specific land parcel to support a well-defined activity or land use is identified. The primary objective of the land potential analysis is to identify conservation and developable zones. Land suitability and land potential analysis act as tools for rationalizing proposed land use patterns and land cover for future development scenarios. The basic premise of suitability analysis is that any landscape has intrinsic characteristics that are either suitable or unsuitable to different extents for the activities being planned. The revelation of these relationships through detailed evaluation and assessment helps make the process of identification of land that is suitable for building, or suitable for the development of various land uses, more informed and efficient.

## **11) Population Projection and Estimation of future Infrastructure, Tourist facilities & Housing Demand**

Projections are an extrapolation of historical data (population v/s time) into the future. The accuracy of population projections is generally considered directly proportional to the size of the existing population and the historical rate of growth, and inversely proportional to the length of the time projection. Population projections for the project area will be done by different population projection methods and an appropriate method will be chosen to finalise the most apt number based on various external and internal factors prevailing in the region. Once the population for the entire planning area shall be projected for the horizon year, detailed demand estimations shall be made for the provision of facilities and services.

## **12) Stakeholder Consultation Workshop**

The main purpose of Stakeholder Consultation Workshop is to get the brief understanding about the BRAJ Planning Area from the local people and prima facie understand the issues that the people of this region are facing and to get a holistic idea of the socio-economic profile of the region. The other main objective of the public meeting is to make the Development Authority/Nagar Parishad members aware about the process of the preparation of the Master Plan and the timelines related to its implementation. The purpose is also to emphasize that it's a people's plan and that citizen's active involvement and contribution towards the development of Master Plan is equally important through regular stakeholder consultation meetings/workshops at appropriate levels.

### **1.5.2 Stage 2: Vision and Strategy Formulation**

Based on the detailed assessment of the existing situation and current trends in the Project Area carried out of Stage -1, one should proceed with the second stage i.e. Vision and Strategy Formulation. The vision statement for the development of any place/region becomes very much important since it helps in the visualization of where and how one wants the region to be in the coming years. It should be carefully carved out and should encompass the aspirations of its local people and various other stakeholders involved directly or indirectly in the development process. Once the vision statement is finalized, a strategy and a policy framework have to be formulated.

#### **1) Vision**

Considered to be one of the most crucial steps during the preparation of a development plan, a Vision acts as a guide for the future development of the region. The vision perceived is further enumerated in the following specific statements:

- The vision of the regional/City spatial structure and the likely scale of development in the context of demographic trends, including migration patterns and housing issues.
- The implications of the above on the distribution of population and activities and on the land use and environment.
- The role and feasibility of developing growth centers that can attract inward investment and efficient infrastructure – including the potential of the region acting as a pivot for future tourism, economic and spatial development
- Economic sector development and employment generation, strategic plans to invite foreign investments at strategic growth points for economic sustainability and balanced growth.
- The distribution of population and economic activities and urban-rural linkages and the development of rural economy and the necessary infrastructure to sustain.
- The holding capacities of various environmental factors to be assessed for sustainable development e.g. availability of potable drinking water sources till horizon year.
- Identification of key commercially viable real estate/infrastructure projects that can be taken up by the Authority or other government agencies based on a detailed real estate market assessment
- Regional and Urban Infrastructure in terms of transport, water supply, power and communication, urban environment quality including waste management and effective drainage.

- Management of Environment, and Natural Resources.
- Preparation of Comprehensive Transport Plan with Existing Situation analysis. Recommendation and Proposals to be presented along with DP.
- The interdependence of the proposed development plan with existing schemes and linkages to the other key regions of Rajasthan and Haryana

## **2) Development Strategies**

A Vision is generally accompanied by a set of development strategies that help achieve the Vision through a set of detailed framework for development.

## **3) Stakeholder Consultation & Visioning Exercise**

The main purpose of Stakeholder Consultation is to get the brief understanding about the BRAJ region from the local people and prima facie understand the issues that the people of BRAJ are facing and to get a holistic idea of the socio-economic profile of the area. The other main objective of the public meeting is to make the Authority/Nagar Parishad members aware about the process of the preparation of the Master Plan and the timelines related to its implementation. The purpose was also to emphasize that it's a people's plan and that citizen's active involvement and contribution towards the development of Development Plan is equally important through regular stakeholder consultation meetings/workshops at appropriate levels.

## **4) Concept Plan Options**

The concept plan will be evolved from a comprehensive understanding of the existing situation, land utilization pattern, land suitability & potential analysis, and population projections carried out for the area. Furthermore, the process will involve an exploration of several alternatives, for each of which, certain principles, laid down with a view to achieving the vision for the project area, will be primary guiding factors. Establishing coherence between residential developments, urban infrastructure, economic activities & provision of amenities within the project area would be the key factor in the process of its future development. With ecological sustainability being a major design criterion, the Master Plan emphasizes the need for good quality of spaces for housing, education, and health among the residents of the project area along with the provision of adequate infrastructure and civic amenities. It should also incorporate Spatial planning norms and standards for the town that shall be followed (URDPFI Guidelines)

## **1.5.3 Stage 3: Spatial Strategy and Preliminary Plan**

### **1) Existing Land Use Map Finalization**

- a. The existing land use map shall be finalized and shall have the following attributes-
- b. Existing land use map with the mapping of residential areas, commercial areas, industrial areas, green spaces and water bodies, public and semipublic areas, etc.
- c. Existing land use statement/activity structure
- d. Existing road network
- e. Mapping of important religious structures, heritage structures, conservation areas, etc.

## 2) Finalization of Conceptual Development Plan

The Preliminary Development Plan shall have the following attributes

- a. Identification of spatial pattern of growth.
- b. Conceptual Development Plan, with land use statement at a broad level
- c. Proposed road network
- d. Spatial distribution of open spaces, social facilities, and amenities
- e. Conceptual Heritage plan
- f. Pilgrim and Tourism management guidelines

## 3) Spatial Strategy Formulation

Upon approval of the preferred strategy and finalization of Concept Plan, by envisaging physical manifestations of the vision, the Consultants shall formulate the final spatial strategy and the resultant preliminary land use plan. The preliminary Land-use plan should describe the following:

- Physical Infrastructure at Trunk level water supply system, sewerage, and stormwater drainage system; Solid waste and wastewater treatment and disposal facilities.
- Social Infrastructure including health, education, recreation, sports, etc.
- Commercial centers at various levels.
- Major resources and distribution system of water, power, sewerage disposal system.
- Heritage management plans
- Pilgrim and Tourism management plan
- **Transportation Plan:** -structure plan for road network with a hierarchy of roads and rail /metro/ropeway network.

### 1.5.4 Stage 4: Draft Regional Development Plan & Report

- **Land-use zoning** covering the whole Project Area and defining clearly all types of land uses including open space, protected and productive areas. The land use assigned shall be as far as possible demarcated by the physically verifiable features e.g. Road, river, drain, canal, extreme level difference, forest boundary, etc.
- Preparation of Regional Development Plan will exist at 3 levels:
  - A. **Regional Plan & Strategies**
  - B. Spatial Planning at **Settlement level**, with norms & guidelines.
  - C. Identification of **Specific projects** based on special needs and local area requirements
- Division of the **Development Area into zones** for the further preparation of Zonal Development Plans. The division shall be based on physically verified features and upon technical logic.
- Micro-level planning to promote different kinds of tourism ie. heritage, pilgrimage, adventure, medical, etc.
- Conservation of ecosystem and water bodies and action plans for water harvesting
- **Stage-wise estimates of the growth of economic activities**, employment and population shall be provided
- **Different models of land development** shall be highlighted viz. Land Pooling System, Purchasable Development Rights, Accommodation Reservation, Land Re-adjustment, Market-based charges for institution and change of land use, external and internal development charges and impact fees shall be adopted.

- Presentation of the Draft Development Plan to the Uttar Pradesh Braj Teerth Vikas Parishad.
- Incorporation of the suggestions received from the committee.

### **1.5.5 Stage 5: Assistance to UTBTVP in notification & finalization of Regional Development Plan**

Consultant shall facilitate Uttar Pradesh Braj Teerth Vikas Parishad in the notification of Draft Development Plan as per provisions of Uttar Pradesh Braj Teerth Vikas Parishad act which shall be exhibited to general for 30 working days. Upon receipt of objections and suggestions, the same shall be compiled. The main objective of the public notification is to represent the Regional Development Plan to the public & other stakeholders and receive their suggestions/ corrections to be incorporated in the Final Regional Development.

In addition to the above, the consultants shall submit monthly progress reports indicating the progress of the study in terms of schedule activity versus actual status and action plan for the following months.

After compiling the objections and suggestion, the final report shall convey the development of the town in financially sustainable and time-bound manner by exploring alternative ways of funding, obtaining land for physical and social infrastructure and shall have the following features:

- Executive Summary
- Development plan phasing
- Preliminary line estimates of physical and social infrastructure, identification of financing and operating mechanism, and funding pattern shall be prepared.
- The detailed Land Use plan along with the strategy for implementation and funding the development.

## **1.6 Summary**

Choosing the right methodology for the project and defining the necessary scope of work in a correct sequence, facilitates to continue the project in the most efficient way. After elaborating the aim, objectives, scope of work and appropriate methodology of the project, other necessary facets of the region can be looked at, in the chapters ahead, as a part of our analysis. In coming Chapters, each aspect of BRAJ region such as- Demography, Economy, Tourism, Physical Infrastructure, social infrastructure will be scrutinized.

## **2 STUDY AREA PROFILE**

### **2.1 Introduction**

#### **2.1.1 About State- Uttar Pradesh**

Uttar Pradesh is the most populous state of India. It is situated in the northern part of India and shares boundary with Uttarakhand, Bihar, Madhya Pradesh, Rajasthan, Haryana, Delhi, Himachal Pradesh and an international border with Nepal.

The history of Uttar Pradesh is recognised in the later Vedic Age as Brahmarshi Desha or Madhya Desha. Many great sages of the Vedic times like Bhardwaja, Gautam, Yagyavalkya, Vashishtha, Vishwamitra, and Valmiki flourished in this state. Several sacred books of the Aryans were also composed here. Two great epics of India, Ramayana, and Mahabharata, appear to have been inspired by Uttar Pradesh. In the Sixth Century BC, Uttar Pradesh was associated with two new religions- Jainism and Buddhism. It was at Sarnath that Buddha preached his first sermon and laid the foundations of his order. Several centers in Uttar Pradesh like Ayodhya, Prayag, Varanasi, and Mathura became reputed centers of learning.

Based on its physiography, the main regions of Uttar Pradesh are the central plains of the Ganga and its tributaries, the southern uplands, the Himalayan region, and the sub montane region between the Himalayas and the plains. The Gangetic Plain occupies about three-fourths of the total area of Uttar Pradesh. It largely consists of a fertile plain which is featureless and varies in elevation, rising up to 300 meters in the northwest, and 60 meters in the extreme east. It is composed of alluvial deposits which are brought down by the Ganga and its tributaries from the Himalayas. The southern uplands constitute a part of the Vindhya Range, which is rugged, largely dissected, and rises towards the south-east. The elevation in this region reaches up to 300 meters.

#### **2.1.2 About Mathura District**

The seat of district administration is at Mathura. The district comprises of 05 tahsils namely Chhata, Mathura, Mant, Mahavan, and Goverdhan (Goverdhan, newly created after 2011 Census). There are 10 Development Blocks in the district namely Nandgaon, Chhata, Chaumuhan, Goverdhan, Mathura, Farah, Baldeo, Nohjhil, Mat and Raya. Total area of the district is 3340.0 Sq. Km. The rural area covers 3185.7 Sq. Km. and urban recorded 154.3 Sq. Km. There are 479 Gram Panchayats and 874 Revenue villages out of which 730 inhabited villages and 144 uninhabited villages in the district. In urban area there are 17 statutory Towns and 8 Census Towns. Statutory Towns comprises of 3 Nagar Palika Parishad, 13 Nagar Panchayats and 01 Cantonment Board.

### 2.1.3 BRAJ Planning Area

For the preparation of the Development Plan under Uttar Pradesh Teerth Vikas Parishad, the Mathura district is considered as the Braj region as per the act 'Uttar Pradesh Braj Planning and Development Board Act, 2015' comprising an area of 3340 sq km. Mathura district planning area comprises of following Settlements as below:

**Table 1: Settlements falling under the Planning area**

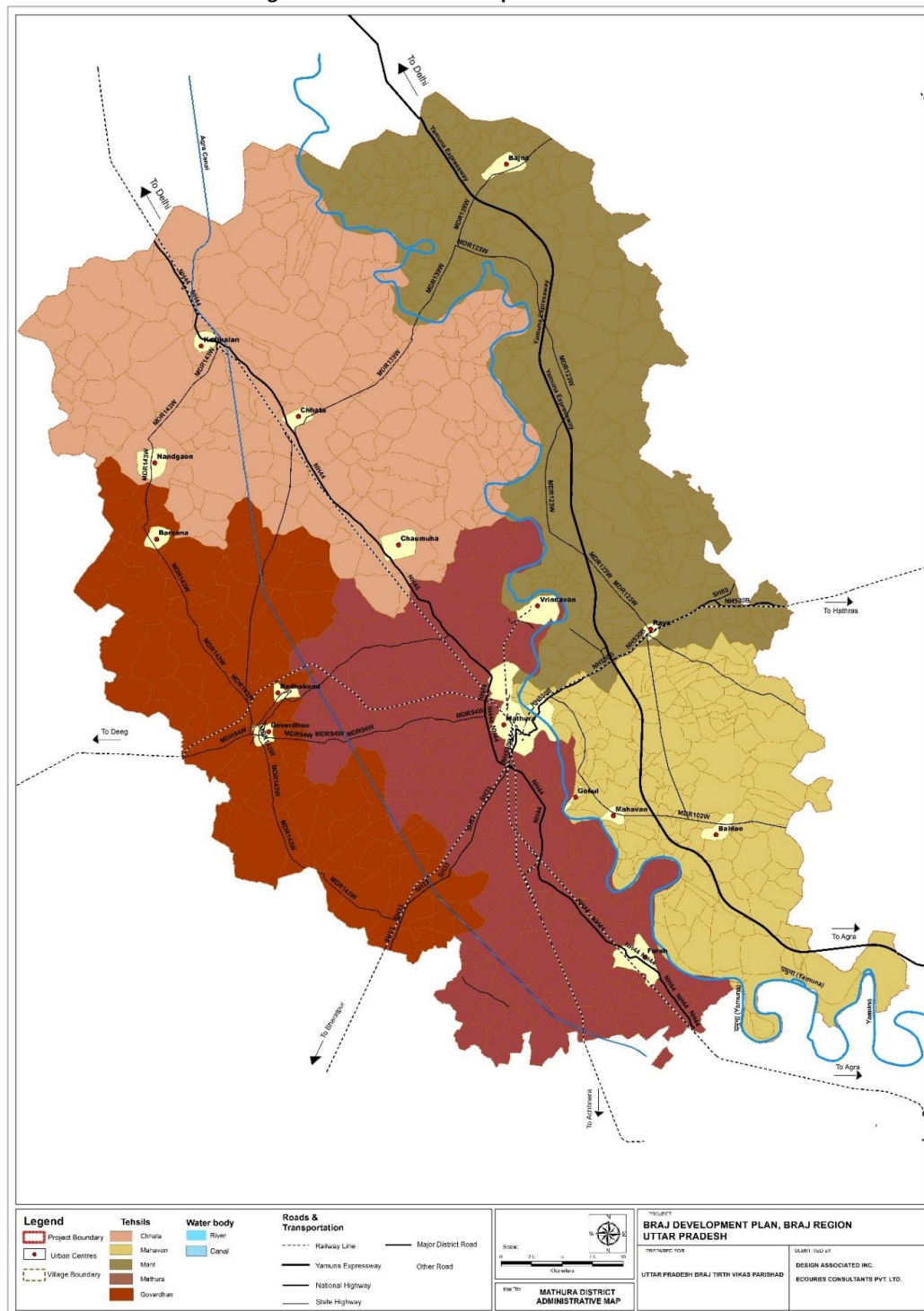
Sr No	Description				Unit
1	Total Geographical Area (Sq.km)				3340
2	No. of Sub Divisions (Tehsil)				5
3	No. of Development Blocks				10
5	No. of Statuary Town				17
		Nagar Palika Parishad		Nagar Panchayat	
	1.	Mathura	1.	Barsana (NP)	
	2.	Vrindavan	2.	Chaumuha (NP)	
	3.	Kosi Kalan	3.	Chhata (NP)	
			4.	Nandgaon (NP)	
		Cantonment Board	5.	Baldeo (NP)	
	1.	Mathura Cant.	6.	Gokul (NP)	
			7.	Mahavan (NP)	
			8.	Raya (NP)	
			9.	Bajna (NP)	
			10.	Farah (NP)	
			11.	Govardhan (NP)	
			12.	Radhakund (NP)	
			13.	Sookh (NP)	
4	No. of Census Town				08
	Aurangabad Banger				
	Bad				
	Bakalpur Mathura				
	Birjapur				
	IsapurBanger				
	Pali Khera				
	Rajpur Banger				
	Ranchi Banger				
6	No. of Villages (Inhabited)				723
7	No. of Gram Panchayats				479

Source: (Census of India 2011)

There are 479 Gram Panchayats and 880 Revenue villages out of which 730 are inhabited villages and 144 are uninhabited villages in the district. In the urban area, there are 17 statutory Towns and 8 Census Towns. Statutory Towns comprises of 3 Nagar Palika Parishad, 13 Nagar Panchayats and 01 Cantonment Board.



Figure 6: Administrative Map of Mathura District



## 2.1.4 Administrative Structure:

The district administration of Mathura comprises of Revenue, Development, Police (Law and Order), Judiciary, and Local self-government departments. District Magistrate is In-charge of revenue & administration. He is assisted by Additional District Magistrate (Finance and Revenue) i.e., ADM (F&R). At the tehsil level, Sub Divisional Magistrate is In-charge, who is now re-designated as Up-Jila Adhikari. He is assisted by Tehsildars in each tehsil and for revenue collection, each tehsil is further entrusted

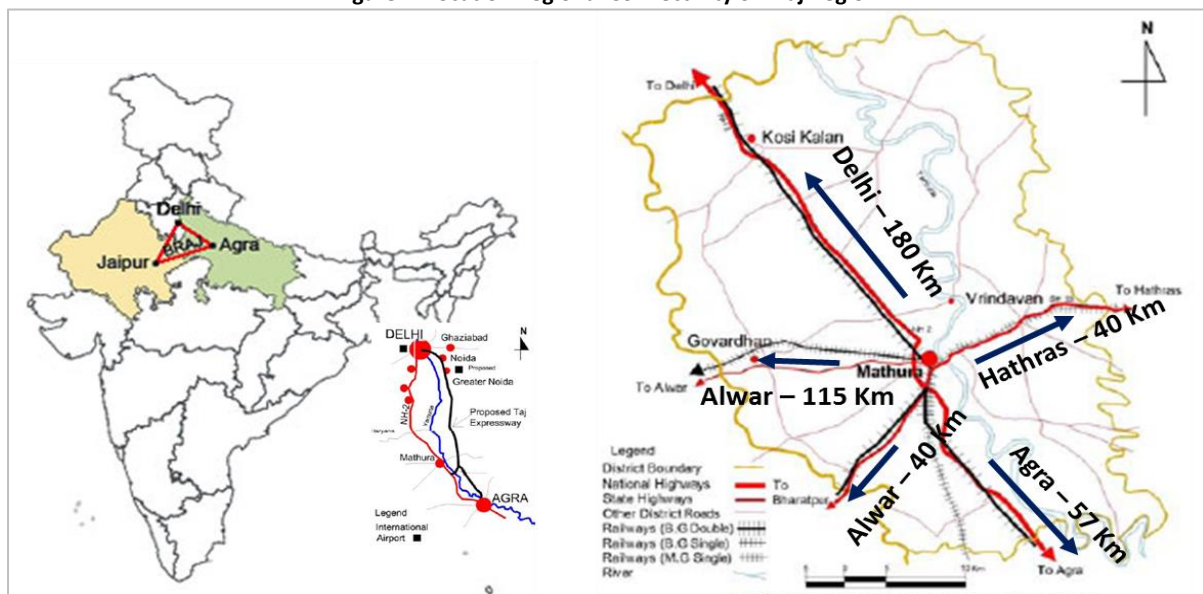


to Naib Tehsildars and Kanongos's circles respectively, likewise, for each revenue village, Lekhpal is In-charge.

## 2.2 Regional Setting, Location and Connectivity

In terms of location, Brajbhoomi falls within modern-day Delhi, Jaipur, Agra Golden Triangle circuit. Quite well defined, culturally, even though not so geographically, Braj Bhoomi, is spread over an area of around 5,400 sq km bound by a periphery known traditionally and historically as 84 Kos spanning Mathura district of Uttar Pradesh, Bharatpur district in Rajasthan and Hodal Subdivision of Palwal Dist. of Haryana. On its northern fringe, Braj Bhoomi starts at a distance of around 90 KMs from India's capital New Delhi, along the National Highway 44. The Braj region has major access nodes from five areas as entry/exit points. The access nodes are from Delhi via Kosi Kalan, Hathras, Alwar, Bharatpur, and Agra. The important access link is Delhi – Agra route, as being the National Highway-44, passing through Mathura.

Figure 7: Location Regional Connectivity of Braj Region



Source: Tourism Master Plan, BRAJ Region

Mathura district shares its boundary with Haryana, Rajasthan, and Delhi. The district is in the proximity of different cities like Delhi, Agra, Aligarh, Bharatpur, Alwar, Lucknow, Palwal, Jaipur, Ferozabad. The region lies well within the golden triangle of Delhi-Jaipur-Agra. Brajbhoomi can be divided into two distinct units: the eastern part in the trans-Yamuna tract which includes Gokul, Mahavan, Baldeo, Mant, and Manigarhi (Naujheel) Bajna; and the western side of the Yamuna covering the Mathura region that encompasses Vrindavan, Goverdhan, Radha Kund, Barsana, Kosi Kalan and Nandgaon.

### 1. Airport Connectivity

There is no domestic or international airport in Mathura. The nearby domestic airport is in Agra which is 67 km (via NH44/NH19) away from where you can find the direct/connecting flights throughout India and an international airport which is in Delhi is 175 Kms away where you will get the outbound and inbound flights from all over the globe.

## 2. Railway Connectivity

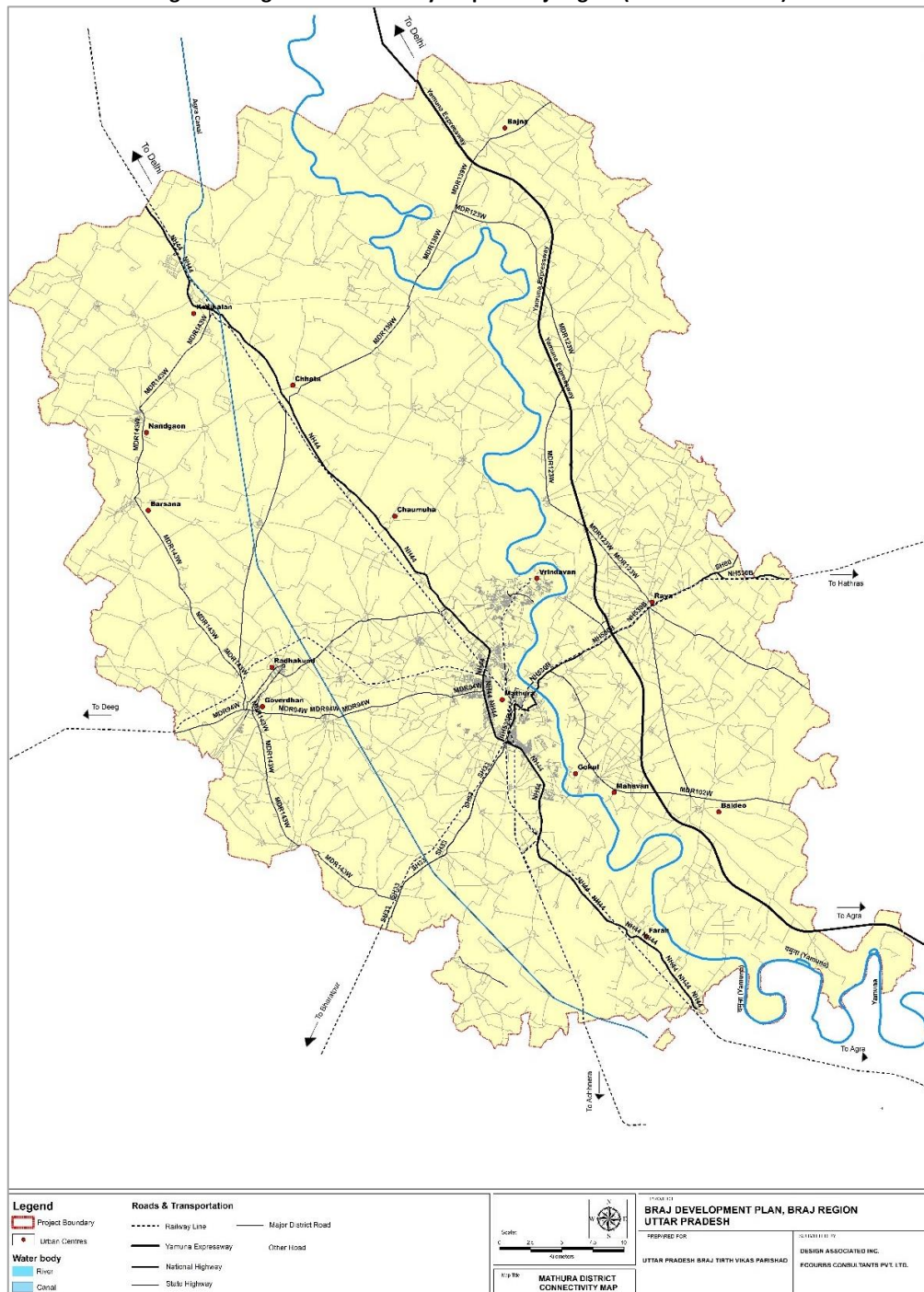
Mathura Junction which is the major railway station of the district lies in Mathura city which has ten Platforms. There are seven routes/lines Agra-Delhi chord, Delhi-Chennai line, Mathura-Bharatpur-Vadodara line, Mathura-Kasganj line, Mathura-Achhanera line, Mathura - Alwar line, Mathura-Vrindavan line. Apart from the Mathura-Vrindavan line which is meter-gauge, all six lines are broad-gauge. It has connectivity with all major cities of India. Platform 9 is dedicated to Vrindavan meter-gauge trains, which is not operational now.

The other statistics for Mathura Junction are as follows:

**Table 2: Description of Mathura Station**

<b>Sr No</b>	<b>Description</b>	<b>Details</b>
1	Type of Station	Junction
2	Number of Platforms	10
3	Number of Halting Trains	222
4	Number of Originating Trains	14
5	Number of Terminating Trains	14

**Figure 8: Regional Connectivity Map of Braj Region (Mathura District)**



### 3. Road Connectivity

The Braj region has major road access nodes from five areas as entry/exit points i.e. from Delhi via Kosi Kalan, Hathras, Alwar, Bharatpur, and Agra. The important access link is Delhi – Agra route, as being the National Highway-44, passing through Mathura, which has been converted into North-South Expressway, with six-lane toll-way. Yamuna Expressway is a 6-lane (extendable to 8 lanes), 165 km long, controlled-access expressway, connecting Greater Noida with Agra in Uttar Pradesh. It is one of India's longest six-lane controlled-access expressway stretches. The other important access is the state highway from Bareilly to Alwar passing through Mathura, and others being access to Bharatpur along with other district roads. The State Highway-39 passes through the Mathura city. The National

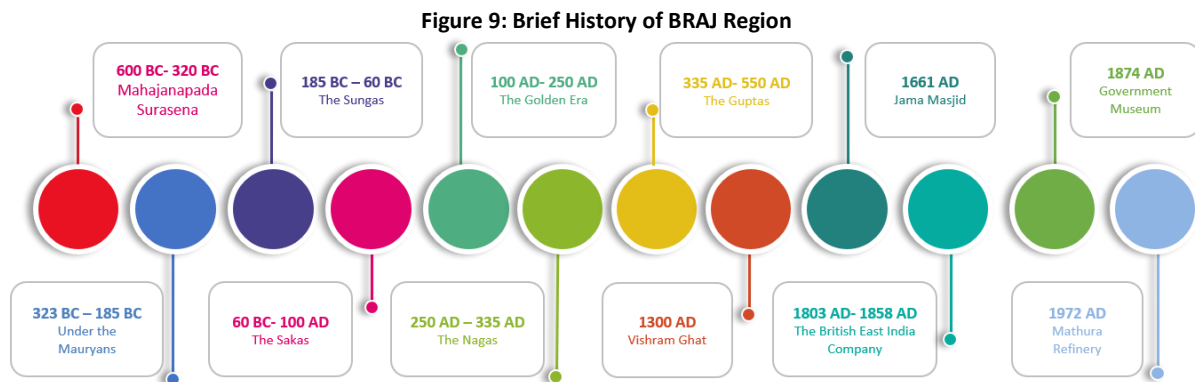
Highways, State Highways and their major routes/links passing through Mathura are tabulated as shown below:

**Table 3: Major roads in Braj region**

Sr No	Road Type	Route/Link
1	Yamuna Expressway	Greater Noida - Agra
2	NH44	Srinagar-Delhi-Mathura-Agra-Gwalior- Kanyakumari
3	NH530 B	Mathura-Raya-Hathras-Sikandra Rao
4	SH 33	Pilibhit-Bareilly-Mathura-Bharatpur
5	SH 80	Aligarh-Mathura

## 2.3 Brief History of BRAJ Region

Mathura is one of the holy and ancient cities in India. In the 6th century, BC Mathura became the capital of the Surasena mahajanapada. The city was later ruled by the Maury Empire (4th to 2nd centuries BC) and the Sunga dynasty (2nd century BC). Even though the city is ruled by Moguls it remained as a major Hindu pilgrimage and became belt for Lord Shri Krishna bhakti cult. After the Moguls rule, it fell into the hands of Jhats and finally captured by the British forces during the 18th century. The Jhats of Mathura district gave a good fight to the British forces and Mathura also played an important part in the independence movement.



- The city of Mathura is the birthplace of Bhagavan (God) Krishna, as documented in the ancient traditional scriptures and dates back to about 5000 years.
- The traditional accounts of Mathura, the city, the region, and the people come from various Vedic literature, the Ramayana and Mahabharata Epics. Satrugna, the younger brother of Lord Rama (one of the most significant avatars of Lord Vishnu), established the city of Mathura after defeating and killing the asura/rakshasa(demon) Lavana, the son of demon king Madhu-so goes the name Madhura-a variant of Mathura. This city then became a royal capital as well as an important commercial center.
- For about 3000 years, it has been the hub of culture, civilization and economic activities, as it was located at the junction of important trade routes. It became a center of three cultures: Indian, Indo-Scythian and Hellenistic. Held in sanctity by the Buddhists, Jain and Brahmanical faith alike, it has a long and chequered history.
- Between 1st Century BC and 1st Century AD, Mathura became the provincial capital of the northern province of the Saka Satraps such as Hagamasha, Hagana, Sodasa, and Rajula. During the reign of the Kushanas, Mathura rose to prominence and gained distinction for a peculiar form of art currently recognized by the historians as the Mathura school of art. Kanishka, the most famous of the Kushana rulers and his successors, ordered the building of several Buddhist monuments, statues, and sculpture in the city. If you visit the Mathura museum, you will see several statues and sculpture of the period in display there.

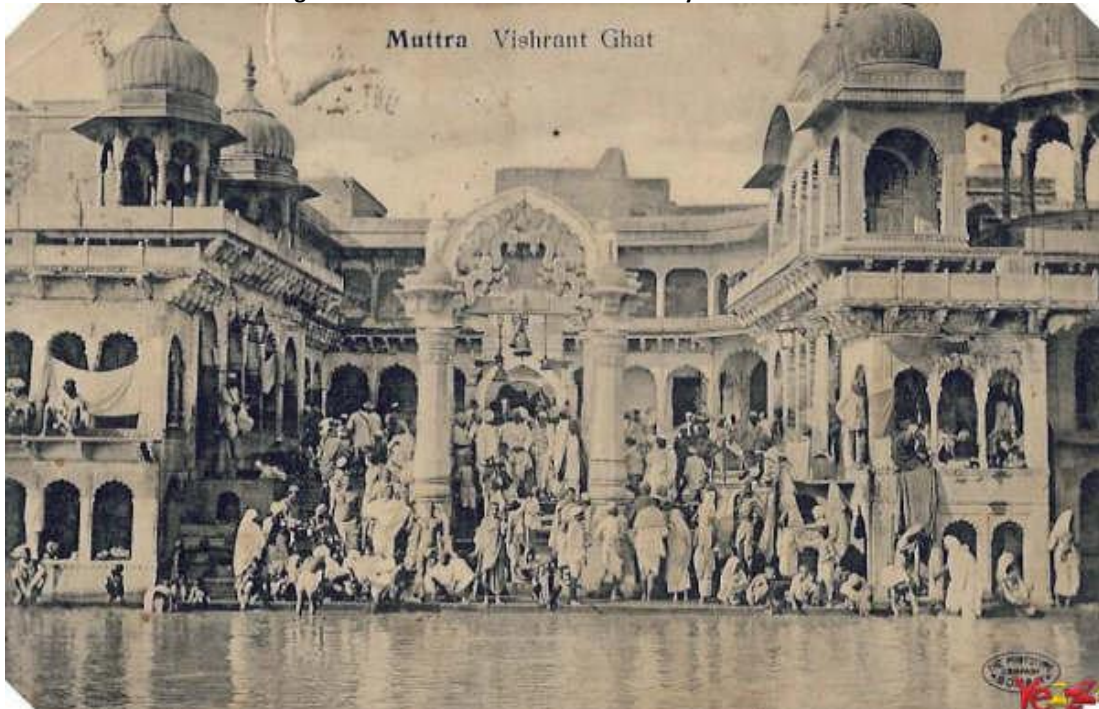
**Figure 10:An artifact from the Mauryan Empire**





- The ancient texts- from the third or fourth-century BCE-belonging to Jaina and Buddhist traditions also describe the Surasenas, with its capital at Mathura. Mathura remained well established and an important political and urban center, as well as the commercial center through the Maurya, post-Maurya, Sunga to the Kushana periods from 3rd century BCE through 4th century CE.

Figure 11: A view of Vishram Ghat in the year 1912



Source: (<http://mathura-heritage.mapunity.com/heritage/galleries>)

- Mathura remained well established and an important political and urban center, as well as the commercial center through the Mauryan Empire, post-Maurya. Mahmud Ghazi ransacked the city in 11 the century AD destroying Buddhist and Hindu shrines.
- It is also connected with some important events in Aurangzeb's life. His eldest son was born there in 1639. In 1666 Shivaji after escaping from Aurangzeb in Agra had come to Mathura. After the Mughal rules, it came under the Jats who gave refuge to many from Delhi during Nadirshah's invasion and also during the invasion of Ahmad Shah Abdali. Sikander Lodhi earned the epithet of 'Butt Shikan', the 'Destroyer of Hindu deities'. The Mughal Emperor Aurangzeb built the city's Jami Masjid (Friday mosque).
- The noteworthy fact is that the exact place of birth of Lord Krishna, according to historians, is in the place of worship of the Hindus, though the mosque was built near the birthplace of Lord Krishna. The bigger Krishna shrine, better known as Dwarkadeesh temple is a fewmeters away from what is believed to be the actual birthplace of Lord Krishna, was built in 1815 by Seth Gokuldas Parikh, Treasurer of Gwalior.
- Finally, it came under British rule in 1804. Under British rule, the city was gifted with a cantonment.

## **2.4 Summary**

The major urban destinations in BRAJ Region are Mathura, Vrindavan, Goverdhan, Barsana, Nandgaon, Gokul, Baldeo, where most of the tourism activities are concentrated and hence, only some limited centers have been able to avail the economic benefits through tourism. However, the seat of real Braj culture and innumerable pastimes of Sri Krishna remained in the rural hinterland of Braj which remained largely secluded from the impending visitors and more importantly from the purview of the planners & administrators. Hence, introducing the whole BRAJ Region (including all Villages and smaller towns), for the preparation of Regional development plan, becomes an important stage here.

### 3 DEMOGRAPHIC PROFILE OF BRAJ REGION

The development of a particular city, town or a region depends upon natural, physical and socio-economic factors. Among these factors, population assumes significance in determining the future pattern of progress and development. The Demographic profile of the planning area has been created based on the information derived from secondary sources and the Census of India. The major religions in the district are Hindu (90.72%) and Muslim (8.52%) of the total population respectively.

#### 3.1 INTRODUCTION

The development of a particular city, town or a region depends upon natural, physical and socio-economic factors. Among these factors, population assumes significance in determining the future pattern of progress and development. The Demographic profile of the planning area has been created based on the information derived from secondary sources and the Census of India. The major religions in the district are Hindu (90.72%) and Muslim (8.52%) of the total population respectively.

#### 3.2 EXISTING POPULATION & DISTRIBUTION

The total population of Braj region (Mathura district) is 25, 41,893 (Census 2011) with a total of 13, 67,000 males and 11, 80,000 females. As per Census of India, the population of Mathura (Nagar Palika Parishad) in 2011 was 375,590 covering an area of 39 sq km. Schedule Caste (SC) constitutes 16% and Schedule Tribes (ST) constitutes of 0.06 % of the population of the total district.

**Table 4: Population Distribution of Braj Region, with the respective area and SC/ST population**

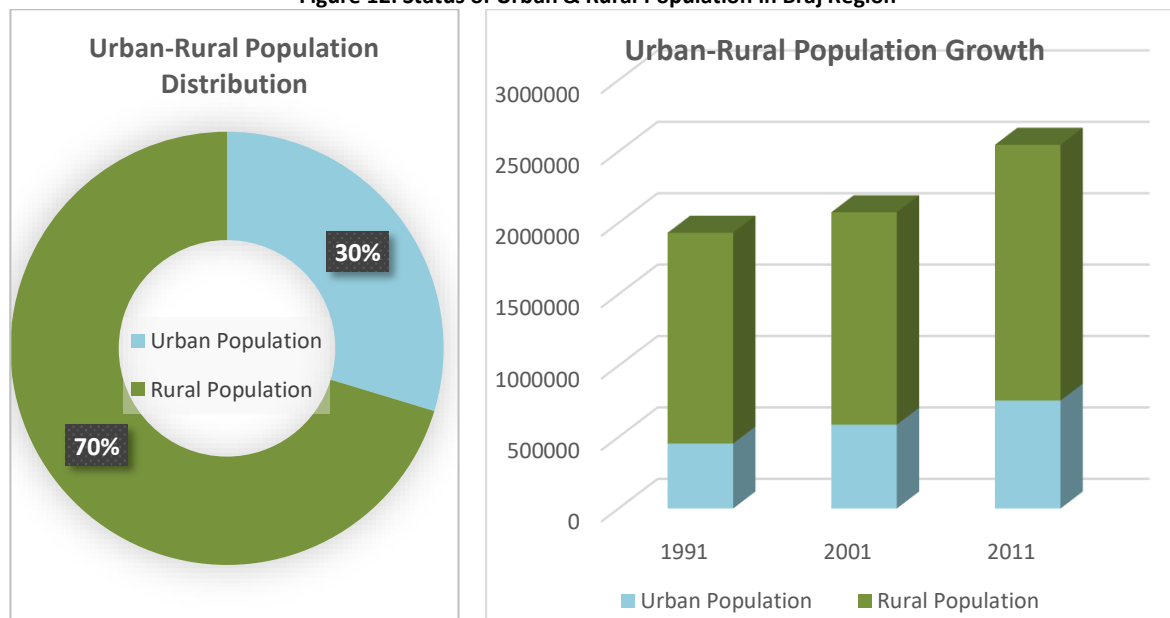
S. No.	Area	Total Population	Area (sq. km.)	SC Percentage	ST Percentage
1	Mathura (town)	375,590	39	13	0.45
2	Vrindavan	63,005	14	10	0.03
3	Kosi Kalan	60,074	5	12	0.01
4	Goverdhan	22,576	8	13	0.03
5	Other Remaining 21 Towns	234,748	88	20	0.02
6	<b>Total Urban</b>	<b>755,993</b>	<b>153</b>	<b>14</b>	<b>0.11</b>
7	<b>Total Rural (880 Villages)</b>	<b>1,791,191</b>	<b>3,188</b>	<b>18</b>	<b>0.01</b>
8	<b>Total (BRAJ Planning Region)</b>	<b>2,547,184</b>	<b>3,341</b>	<b>16</b>	<b>0.06</b>

Source: Census of India, 2011

#### 3.3 LEVEL OF URBANISATION

Out of the total Mathura population for 2011 census, 29.68 percent lives in urban regions of district. In total 755,993 people lives in urban areas of which males are 405,097 and females are 350,896. As per 2011 census, 70.32 % population of Mathura districts lives in rural areas of villages. The total Mathura district population living in rural areas is 1,791,191 of which males and females are 962,028 and 829,163 respectively.



**Figure 12: Status of Urban & Rural Population in Braj Region**

Source: Census of India, 2011

There has been a constant increase in the urban population in the Braj region from the year 1991 till 2011. During 1991 a total of 76% of the population resided in rural areas of the region. Which then declined to 71% after the conversion of a few rural areas to towns such as Bad, Aurangabad Banger, etc. This growth remained constant to 70% of the population residing in rural areas as per census 2011.

### 3.4 POPULATION DENSITY

The total population density of Mathura district is 762 persons per square kilometer. As it can be observed that the density is highest in Kosikalan town and lowest in Goverdhan town in comparison with the other urban centres. Even within the urban centres variation in density can be seen. While the rural areas showcase low density i.e. 562 persons per square kilometer in comparison to the urban density of 4951 persons per square kilometer.

**Table 5: Population Density in BRAJ Planning Region**

S. No.	Area	Density (Persons/per sq km.)
1	Mathura (town)	9,653
2	Vrindavan	4,667
3	Kosi Kalan	13,350
4	Goverdhan	2,822
5	Other Remaining 21 Towns	4,201
6	<b>Total Urban</b>	<b>4,951</b>
7	<b>Total Rural (880 Villages)</b>	<b>562</b>
8	<b>Total (BRAJ Planning Region)</b>	<b>762</b>

Source: Census of India, 2011

### 3.5 POPULATION GROWTH

Since 1981 the district has seen steady population growth. The average population growth over a period of 4 decades is 28.5%. Where Major growth took place in the year 1991 i.e. 53.7%. The district population of Mathura is - 28,18,547- for the year 2018 by using incremental increase method.

Figure 13: Population Growth Trend of the Region

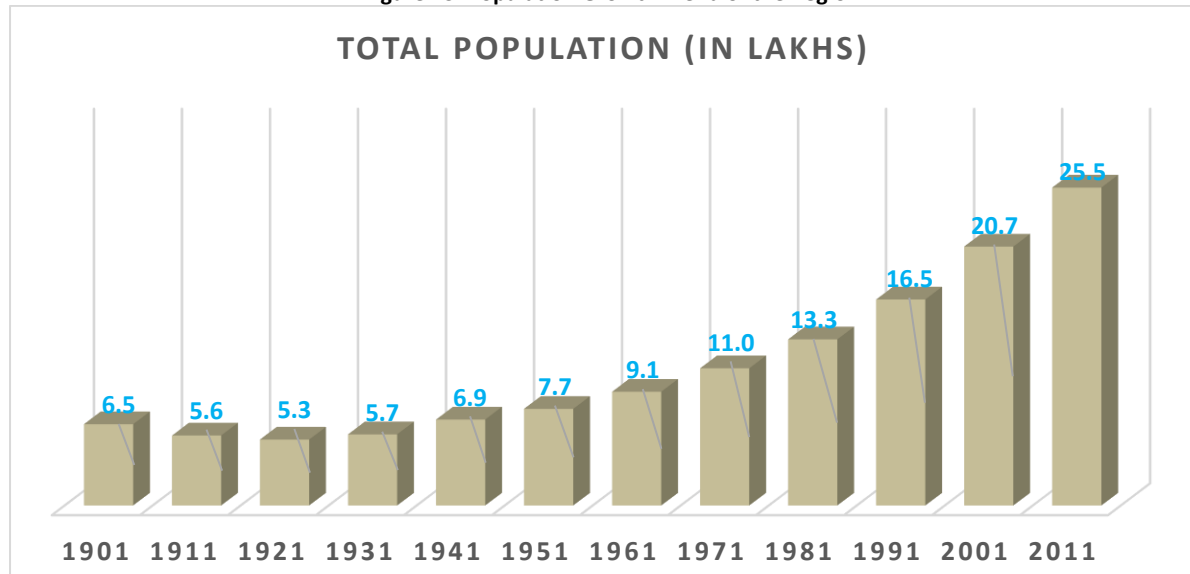
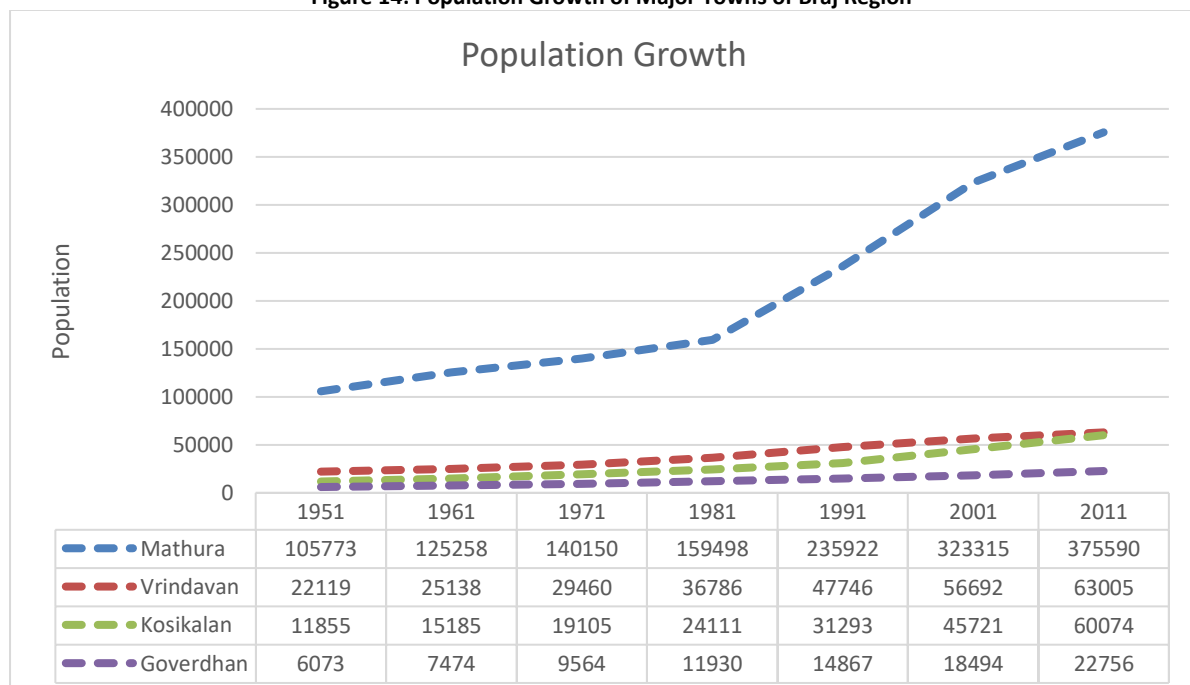


Figure 14: Population Growth of Major Towns of Braj Region

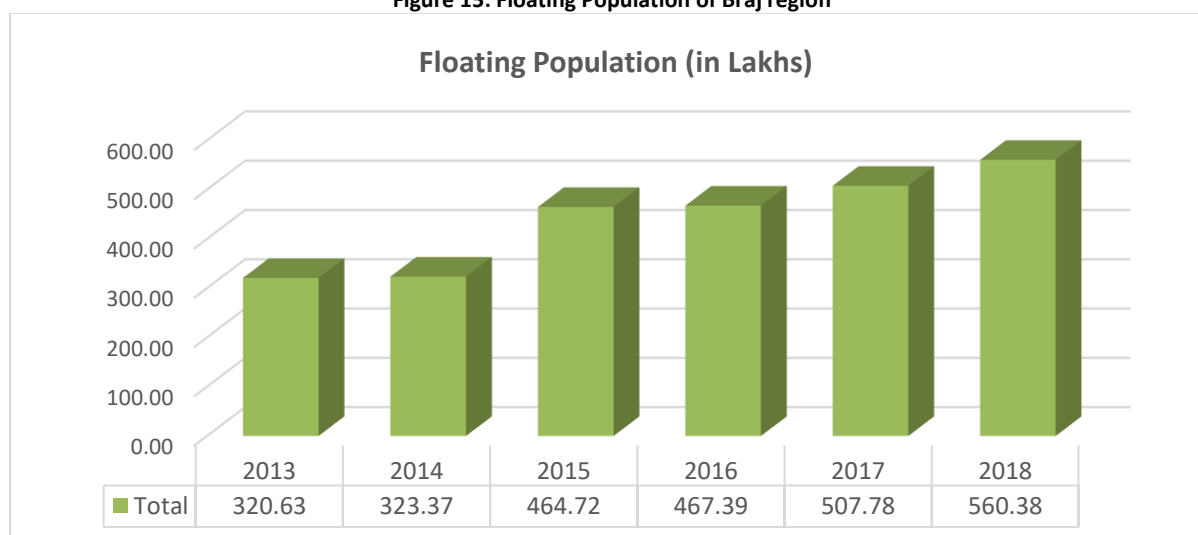


As can be seen from the graph shown above, Mathura, being the largest urban centre has experienced a huge increase in population in the last few decades. A major bounce in the population of the town can be seen in the year 1981 i.e. 47% certainly, due to the increased area of the city. Other major towns i.e. Vrindavan, Kosikalan, Goverdhan has experienced a constant growth during the same period.

### 3.6 FLOATING POPULATION

Braj being a hub for religious importance both for national and international pilgrims, experience a huge influx of tourist. This leads to a fluctuation in the population of the region. The latest estimation by Uttar Pradesh Tourism department estimated a total of 5.6 million visitors to the region during the year 2018. The inflow keeps growing every year with the major occasion being Krishna Janmashtami, Holi, etc. the following table, shown below depicts the numbers of tourism visiting BRAJ regional annually, from the year 2013 to 2018.

Figure 15: Floating Population of Braj region



Source: Uttar Pradesh Tourism Department, 2018

### 3.7 SEX-RATIO

The sex ratio of Mathura District is 863 females per thousand males which is less than the state average of 912 females per thousand males. As against to urban areas of the district the sex-ratio is lower in rural areas (refer to the table below). Among CD Block the sex ratio is highest in Farah at 875 and lowest in Chaumuha at 849. In the urban parts of the district, the average sex-ratio is 846 and highest of 907 in Bad (C.T.) and lowest of 799 in Mathura (CB). Child sex ratio is 860 girls per 1000 boys. (Census, 2011)

Table 6: Sex ratio of BRAJ region

S. No.	Area	Sex Ratio
1	Mathura (town)	799
2	Vrindavan	812
3	Kosi Kalan	882
4	Goverdhan	864
5	Other Remaining 21 Towns	871
6	<b>Total Urban</b>	<b>846</b>
7	<b>Total Rural (880 Villages)</b>	<b>748</b>
8	<b>Total (BRAJ Planning Region)</b>	<b>863</b>

Source: Census of India, 2011

### 3.8 LITERACY RATE

Literacy Rate in India is counted for those above 7 years age, 0-6 years children are exempted from these criteria. Mathura district ranks 30th in literacy with 59 percent which is lower than the state average of 67.7 percent. (Census, 2011).

Table 7: Literacy rate of Braj region

S. No.	Area	Literacy Rate
1	Mathura (town)	71
2	Vrindavan	68
3	Kosi Kalan	59
4	Goverdhan	64
5	Other Remaining 21 Towns	62
6	<b>Total Urban</b>	<b>64</b>
7	<b>Total Rural (880 Villages)</b>	<b>57</b>
8	<b>Total (BRAJ Planning Region)</b>	<b>59</b>

### 3.9 WORKFORCE PARTICIPATION

In the total population of the district of 2,547,184, 33.01 percent are workers 33 percent and rest 66.99 percent are non-worker. Among worker, 23 percent are main workers and 10 percent are marginal workers of the total population. In absolute terms, males outnumber females as the main worker, as against marginal workers were females outnumber males. The extent of main workers is highest at 24.69 percent in Chhata tehsil and lowest at 22.3 percent in Mat tehsil (Census, 2011). In the district among workers, 28.05 percent are cultivators and 45.35 percent other workers. Over 24.05 percent of female workers are engaged as cultivators. The Main source of income in the district is from the agriculture sector and per capita income is Rs. 48806. (Census, 2011)

Figure 16: Workforce Distribution of Braj Region

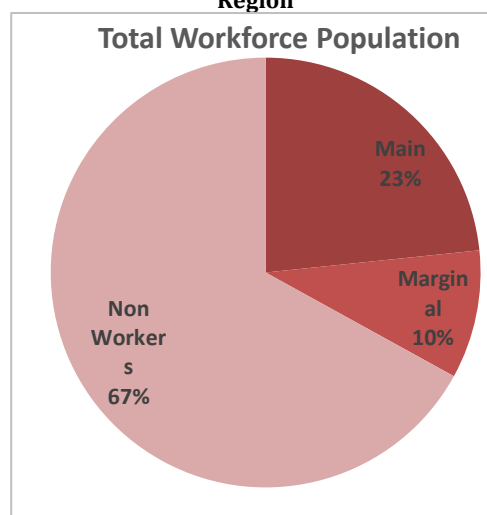


Table 8: Workforce Participation Rate in BRAJ Region

S. No.	Area	Workforce Participation Rate
1	Mathura (town)	33
2	Vrindavan	30
3	Kosi Kalan	29
4	Goverdhan	28
5	Other Remaining 21 Towns	29
6	<b>Total Urban</b>	<b>30</b>
7	<b>Total Rural (880 Villages)</b>	<b>34</b>
8	<b>Total (BRAJ Planning Region)</b>	<b>33</b>

Source: Census of India, 2011

### 3.10 HOUSEHOLD CHARACTERISTICS

The household size in the Braj region planning ranges from 4 - 6 in urban settlements. The average household size is 6. (Census, 2011)

**Table 9: Household characteristics of Braj region**

S. No.	Area	Total Households
1	Mathura (town)	64,921
2	Vrindavan	11,637
3	Kosi Kalan	9,879
4	Goverdhan	3,910
5	Other Remaining 21 Towns	39,897
6	<b>Total Urban</b>	<b>130,244</b>
7	<b>Total Rural (880 Villages)</b>	<b>292,881</b>
8	<b>Total (BRAJ Planning Region)</b>	<b>423,125</b>

Source: Census of India, 2011

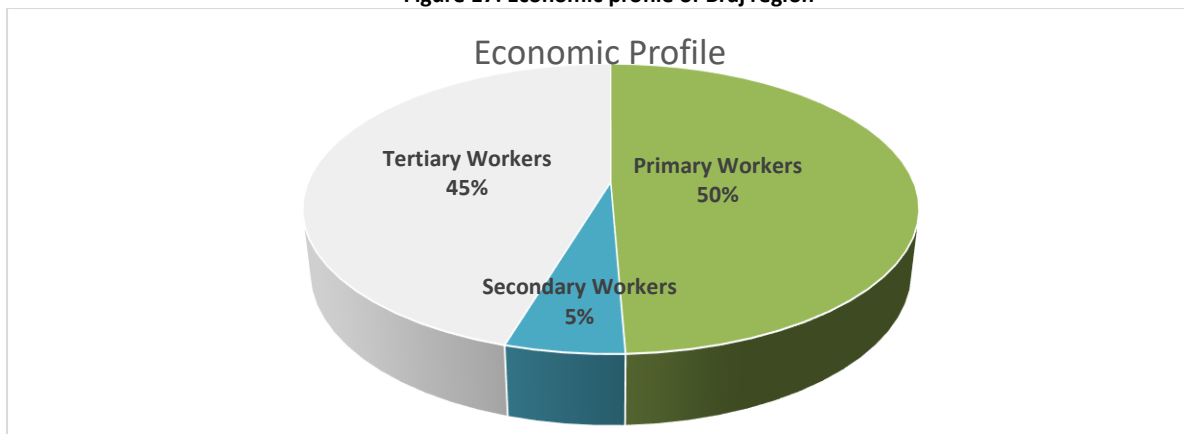
### 3.11 Summary

In BRAJ region, with a population of 25 lakh, approx. 70% of the population is rural and 30% is urban. The population density of the region is 762 persons per square km which are lower than that of the state i.e. 868 persons per square km, which shows that the BRAJ area is sparsely populated. Although the urban centres are comparatively dense due to their economic significance. Another interesting observation is that a major part of the population of BRAJ Planning Area is non- working population (67%). This could be due to the age distribution of the district, which concludes that 47 % of the total population falls in the category of age group 0-19 and above 60 years.

## 4 ECONOMIC PROFILE OF BRAJ REGION

The region has a very fertile alluvial soil which makes this region more of an agriculturally based economy. As discussed earlier chapter, the majority of the working class is involved in agro-based industries. Tourism based livelihoods are also significant, as the district houses many temples, mosques, and monasteries. Mathura has various types of industries mainly; oil refinery (Indian Oil Refinery in Mathura town), Textile printing, Fabric dyeing, and manufacturing units, manufacturing a wide variety of goods i.e., statues, handicrafts, water taps, cotton materials. The local populations are engaged in a wide variety of activities. The table shows the involvement of working population in different sectors.

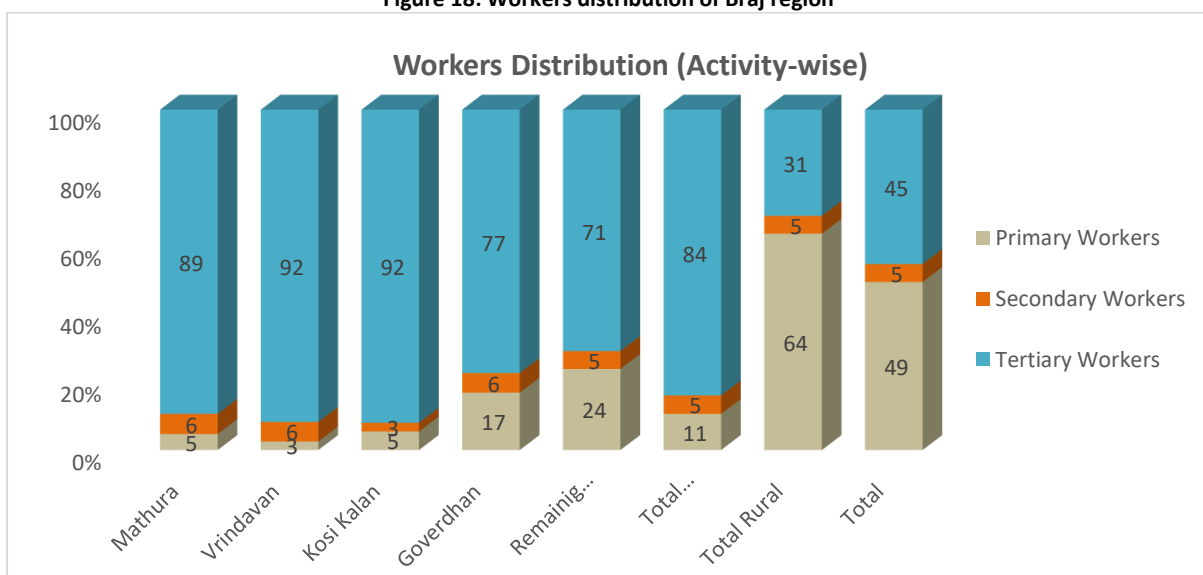
Figure 17: Economic profile of Braj region



Source: Census of India, 2011

Around 84% of the workers are involved in the Tertiary sector in Urban centers mainly tourism, while 64% of the worker's population in rural areas depends on the primary sector. Although in both the scenarios only 5% of the workers are involved in secondary sectors which portray that manufacturing industries accumulate to be very less in the region.

Figure 18: Workers distribution of Braj region



Source: Census of India, 2011

**Figure 19: Economic activities of braj region**

## 4.1 Primary Activities

Agriculture is the mainstay of the economy of the region having to marked seasons i.e Kharif and Rabi. The principal crops of the Kharif season are rice, jowar, pigeon pea, sugarcane, etc. The crops grown in Rabi season are wheat, barley, lentil, black gram, gram, peas, potato, sesame, etc. Besides agriculture, people of the region are also engaged in the secondary and tertiary sector. Agriculture and allied activities employ 50 percent of the total workforce. Hardly 05 percent of workers are employed in the secondary sector and 45 percent in the tertiary sector. (MSME, 2011)

**Table 10: Primary activities in Braj region**

S. No.	Area	Primary Workers (%)
1	Mathura	5
2	Vrindavan	3
3	Kosi Kalan	5
4	Goverdhan	17
5	Other Remaining 21 Towns	24
6	<b>Total Urban</b>	<b>11</b>
7	<b>Total Rural (Other 880 Villages)</b>	<b>64</b>
8	<b>Total</b>	<b>50</b>

Source: Census of India, 2011

A major source of irrigation of the respondents is electric pumps followed by diesel pumps and canal. Buffalo rearing is common in the household of respondents for milk purpose followed by cows and goats. In the case of draft animals, respondents are keeping He-buffalos followed by oxen.

Table 11: Agro Processing units Braj Region

Sr No	Type of Processing Activity	No of units	Capacity [MT]	Type of Processing Activity
1	Food (Rice/Flour/Dal/Oil/Tea/Coffee)	390	NA	Food (Rice/Flour/Dal/Oil/Tea/Coffee)
2	Sugarcane (Gur/Khandsari/Sugar)	NA	NA	Sugarcane (Gur/Khandsari/Sugar)
3	Fruit (Pulp/Juice/Fruit drink)	2	NA	Fruit (Pulp/Juice/Fruit drink)
4	Spices (Masala Powders/Pastes)	NA	NA	Spices (Masala Powders/Pastes)
5	Cotton (Ginning/Spinning/Weaving)	128	NA	Cotton (Ginning/Spinning/Weaving)
6	Milk (Chilling/Cooling/Processing)	9	NA	Milk (Chilling/Cooling/Processing)
7	Meat (Chicken/Mutton/Pork/Dryfish)	NA	NA	Meat (Chicken/Mutton/Pork/Dryfish)
8	Animal feed (Cattle/Poultry/Fishmeal)	NA	NA	Animal feed (Cattle/Poultry/Fishmeal)

## 4.2 Secondary Activities

Though to the close of the 19th century, there were no important industrial establishments in the district except household industry of weaving cloth, making of paper and stone carving, the making of small silver toys at Gokul has been a famous industry from ancient times. But thereafter there was general development in the industrial fields also. Khadi industry is also flourishing in the district. There are cottage industries, besides these, there are areas for stone carving industry, rolling mills, Kashi tape, and crops industry in Mathura the Bharat electric industries. There are Ayurvedic and Allopathic manufacturing too.

Table 12: Secondary activities workers in Braj region

S. No.	Area	Secondary Workers (%)
1	Mathura	6
2	Vrindavan	6
3	Kosi Kalan	3
4	Goverdhan	6
5	Other Remaining 21 Towns	5
6	<b>Total Urban</b>	<b>5</b>
7	<b>Total Rural (Other 880 Villages)</b>	<b>5</b>
8	<b>Total</b>	<b>5</b>

Source: Census of India, 2011

Mathura Refinery located in the city is one of the biggest oil refineries of Asia with 8.0 MMTPA refining capacity. This oil refinery of the Indian Oil Corporation is a highly technologically advanced oil refinery and provides local employment opportunities.



Figure 20: Mathura Refinery (Source: indiapost.com)



### 4.3 Tertiary Activities

Because of its favorable location and its importance as a place of pilgrimage, Mathura has always been a trading city and it was a wealthy trade center and a great mart in ancient times. There was a trade route coming from Tamralipti (a port in Bengal) which passed through Mathura and went on to Balkh (in central Asia), Europe and other countries. The situation of Mathura on the Yamuna enabled boats of considerable tonnage carryings large cargoes of stone, cotton, ghee, and indigo to pass it. During British times many roads were built and old ones rebuilt and repaired linking Mathura with important places inside and outside the district and facilitating its trade and commerce. In 1904 a new railway line connecting Mathura with Agra and Delhi was laid which absorbed a good deal of the road-borne goods traffic between Punjab and places beyond Mathura. Industrial development started in the district only after the coming of independence in 1947. The commodities exported from the district are grains and pulses, jaggery, oil-seeds, edible oils, preserved fruits, cotton, animals, cement, iron, steel, coal, niwar, etc. to all parts of the country particularly to Delhi, Agra, and Aligarh and to states of Gujarat and Rajasthan. Being the birthplace of Shri Krishna, district invites a bulk of pilgrims and tourist hence making it an important tourist hub, which encourages the growth of tourism based industries, hotels, restaurants, etc.

Table 13: Tertiary activities workers in Braj region

S. No.	Area	Tertiary Workers (%)
1	Mathura	89
2	Vrindavan	92
3	Kosi Kalan	92
4	Goverdhan	77
5	Other Remaining 21 Towns	71
6	<b>Total Urban</b>	<b>84</b>
7	<b>Total Rural (Other 880 Villages)</b>	<b>31</b>
8	<b>Total</b>	<b>45</b>

Source: Census of India, 2011

### 4.4 Summary

The economy of BRAJ Region is mainly dependent upon the agro-based workers or primary activities. As the region is well nourished by alluvial soil, it supports the agriculture and cultivation in the region. Other than agriculture, tertiary activities are the second most important economic activity in BRAJ.

The region has a history which makes it an important tourist destination. It has a lot of temples. Kunds and other religious places attracting pilgrims from other states in the country and world. As per the U.P. Tourism department, nearly 50 million pilgrims/ tourist visited Braj region in 2018. Hence, making tourism an important economic activity in the region will be one of the main objectives of the project. In addition, Mathura refinery is the only large scale industry in the region, as Braj falls under Taj Trapezium Zone, establishing other polluting industries are not allowed. Although the city has good potential to promote small scale and household industries. In terms of economic opportunities, there is a huge scope for development of small scale industries and channelizing the workforce in the transportation, administrative and tourism sector.

## 5 PILGRIMAGE & TOURISM SECTOR

### 5.1 Significance of Tourism in BRAJ Region

The Braj region is known for its rich cultural, architectural, ecological and spiritual heritage. There used to be over 1000 splashing water bodies (Kunds) in the entire region having beautiful architectural constructions around. Over 137 lush green forests used to adorn this fabled land. Hundreds of beautiful mansions, ashrams, and temples have been built in the entire region during the course of history. The cultural and spiritual traditions of the region have been sung and eulogized far and wide. Braj is one of the most visited regions in Uttar Pradesh because of its rich religious & cultural heritage. The region's true culture lies in its rural belt and not the urbanized areas. It is in these rural villages that the true essence of Braj and Radha-Krishna lilas can be experienced.

Most tourists coming to Braj region only visit few major tourist spots such as Vrindavan, Govardhan, Mahavan, Gokul, Mathura, Baldeo, etc. A large portion of the entire region remains unexplored due to lack of awareness about the rich cultural heritage of the entire region. Most tourist trips in the Braj region last for approximately 1-2 days and do not contribute significantly to the economic development of the region. The multi-development pattern representing various themes can be seen along this region and mainly consist of industrial corridors, educational belts, highway resorts/ townships, etc. The regions of the Braj which lie along with these belts and which are in close proximity to the main arterial networks have strong potential for tourism development with specific themes for promotion.

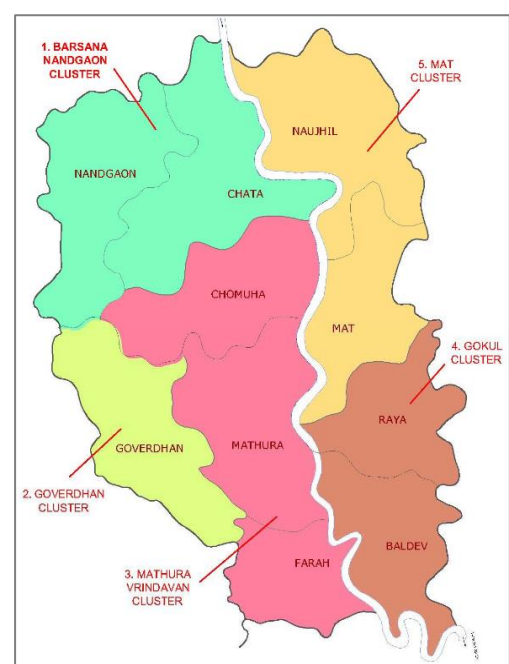
The Braj region of Uttar Pradesh has been divided into five sacred clusters. The clusters follow the administrative boundaries of the block and tehsil. Out of the 10 development blocks, 5 clusters have been identified namely –

- The Barsana – Nandgaon Cluster (NW of Braj Region)
- The Mathura – Vrindavan Cluster (Central Braj Region)
- The Goverdhan Cluster (SW of Braj Region)
- The Mat Cluster (NE of Braj Region)
- The Gokul Cluster (SE of Braj region)

The Barsana - Nandgaon cluster comprises of Nandgaon and Chhata Block; The Mathura – Vrindavan Cluster comprises of Chhata, Mathura and Farah Block; The Goverdhan Cluster contains Goverdhan block; Mat Cluster contains Mat and Naujheel Block and Gokul Cluster contains Baldev and Raya Block.

Opportunities for tourism development in the Braj region can be summarized into following –

**Figure 21: Clusters in Braj region (Source: Tourism Master Plan Braj region)**



- It is an internationally recognised pilgrimage destination in Uttar Pradesh
- The culturally and naturally rich region with spiritual importance
- Rich and diverse folklore
- Land of divine leelas of Krishna and Radha

## 5.2 Tourist Footfall

Over 56 million pilgrims/tourists (UP tourism statistics report 2018) visit this small geographical area having a spread of around 3340 sq. km. Uttar Pradesh, as a tourist destination, has been attracting approximately 12.20% of the foreign tourist traffic to India. Tourism trends for the year 2013-2018 are as follows:

**Table 14: Tourist Inflow in the Braj region**

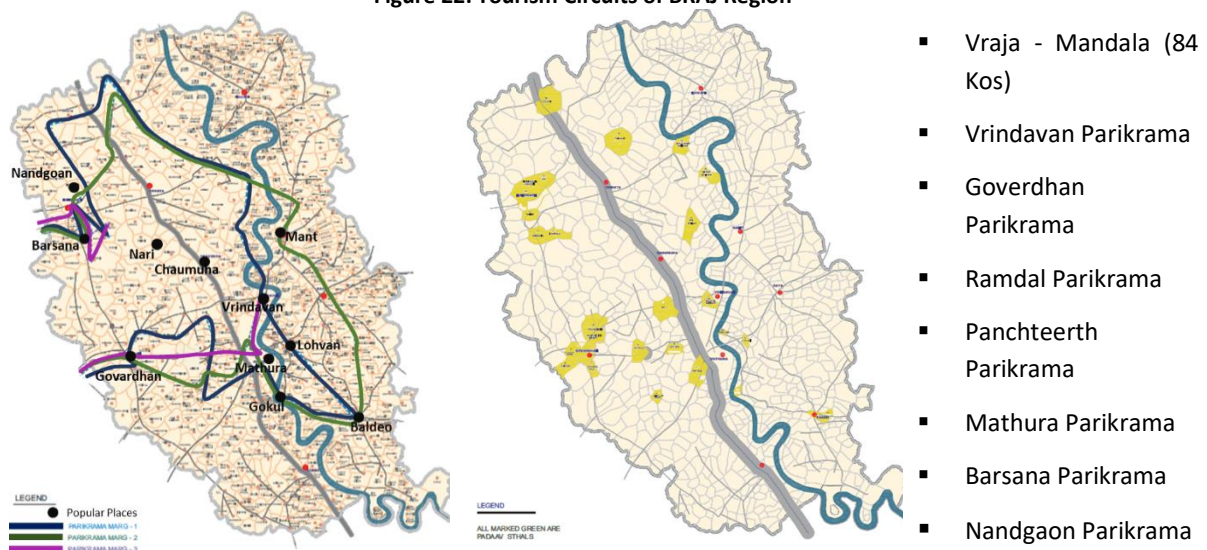
Year	Indian	Foreign	Total
2013	32007500	55560	32063060
2014	32280000	56910	32336910
2015	46381500	90870	46472370
2016	46647500	91460	46738960
2017	50680950	96875	50777825
2018	55934450	103251	56037701

As the region got better connectivity through road (Yamuna express highway) and rail (Broad gauge line). The tourist inflow increased at a good pace. The important destinations of the Braj region fall along the North-South Corridor, Golden Triangle Tourism circuit, which is the most frequented by international tourists traveling from Delhi – Agra – Jaipur.

## 5.3 Tourism Circuits

Tourists usually visit in the Braj region in order to perform parikramas (circuits) linking major religious places around the region. Some of these parikramas are enlisted below:

**Figure 22: Tourism Circuits of BRAJ Region**





The major parikrama is 84 kos (270 Kms) is mainly begins in Chaitra and Baisakh month as per Hindu calendar. Since the pilgrimage were the four Adobes of Hinduism. Which was spread in the North, South, East, and West of the country. In order to fulfill his aged parents desire Krishna summoned all the divine aspects of these places of worship and brought them to Vrindavan within a 300- km radius and blessed the land. The total duration for the parikrama yatra by barefoot is around one month with having many padav sthals in between.

## 5.4 Significant Tourist Sites in Braj Region

Braj Region comprises of Mathura, Vrindavan, Nandgaon, Gokul, Goverdhan, Barsana, Mant, and Mahavan. The tourist sites and circuits are distributed through the aforesaid cities.

### 5.4.1 Mathura

Mathura (or Brajbhoomi) is popular as the birthplace of Lord Krishna, an important deity in the Hindu religious pantheon. It is an essential pilgrim place of the Hindus and one of the seven sacred cities in India. The main pilgrim center in Mathura is the Shri Krishna Janmabhoomi temple.

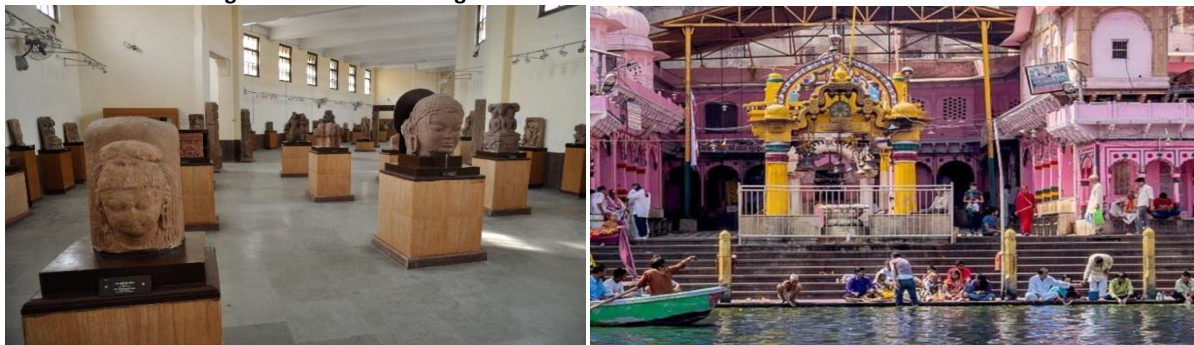
The Shri Krishna Janmabhoomi (birthplace of Lord Krishna) is the main attraction of Mathura and an important pilgrim place of the Hindus. A stone slab marks the original spot of the birth of Lord Krishna. The earlier Kesava Deo temple had the room where Lord Krishna was born. According to legend, Lord Krishna was born in a small prison room where the tyrant ruler Kansa held his parent's captive.

Figure 23: Sri Krishna Janambhoomi temple (Source: wikipedia.com)



The Archeological Museum of Mathura is an important place to visit. It houses an excellent collection of sculptures belonging to the ancient Mathura school of art. The Vishram Ghat, on river Yamuna, is another place to visit in Mathura. It is said that Lord Krishna had killed the tyrant Kansa here. The Sati Burj, Kans Qila, Jama Masjid, and Dwarkadheesh temple are other places to see in Mathura.

Figure 24: The Archeological Museum Mathura and the Vishram Ghat Mathura



### 5.4.2 Vrindavan

The name 'Vrindavan' is said to have been derived from 'Vrinda', another name for the sacred tulsi (basil) plant. A legend has it that the entire place was a tulsi grove at one time. According to another tradition, it was named after Vrinda Devi, one of Krishna's playmates. Vrindavan is primarily a place of temples around 4,000 in numbers, which include several private shrines and sattras (houses for the distribution of alms), they are spread on a 10 km stretch. The earliest known shrine in Vrindavan is said to have been built by the local gosains in a large garden called Nidhivan, later named Seva Kunj.

**Pagal Baba Temple** is a beautiful and magnificent structure located on Mathura - Vrindavan road. This is one of the prime temples in Vrindavan. Built by a saint named Pagal Baba (Sri Sheela Nand Ji Maharaj), this temple is devoted to Lord Krishna. Pagal Baba Temple is an important piece of modern architecture. This is an eleven storied temple built with white marble. It presents a beautiful view of the city of Vrindavan from its topmost floor. The temple is famous for its puppet exhibition on the ground floor. The puppets play scenes from the great Epics, Mahabharata and Ramayana. The temple is decorated by the followers of Pagal Baba during Holi and Janmashtami.

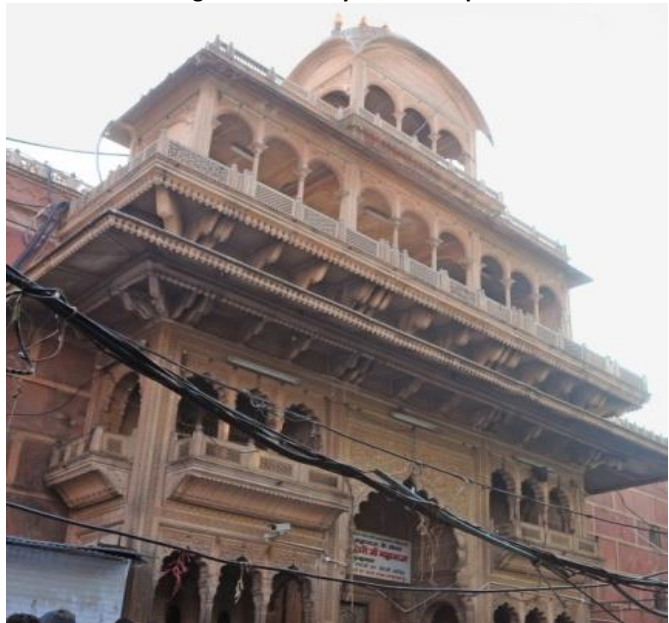
Figure 25: Pagal Baba Temple Vrindavan



Source: vrindavantourism.in

Sri **Bankey Bihari Mandir** is one of the popular Vrindavan temples situated near Radhavallabh Temple in the holy city of Vrindavan. This temple is among the 7 temples of Thakur of Vrindavan including Sri Radhavallabh Ji, Sri Govind Dev Ji, and four others. The presiding deity of the temple is Lord Krishna. The deity was originally worshipped by Haridas Swami under the name of Kunji-Bihari at Nidhivan. The idol of is much older and was worshipped in Nidhivan till 1863. The current temple was built in 1864 by Swami Haridas of the Nimbarka Sampradaya. Later, the deity of Radha Rani was added to the temple. The Bankey Bihari temple is amongst the holiest and famous temples of Lord Krishna. People from different parts of the country come here to celebrate the festivals.

Figure 26: Bankey Bihari Temple



Source: brajdarshan.in



The **Govind Dev Temple** was built by Raja Man Singh, the ruler of Amber, Rajasthan in 1590 at a cost of ten million rupees. It is an astonishingly beautiful seven storey temple dedicated to Govind Dev, another name for Lord Krishna. The temple was partially destroyed by Mughal ruler Aurangzeb in 1670, and now only a three-storied structure remains. The architecture of the temple is different from those of conventional temples. This temple reflects the architectural elements of Western, Hindu and Muslim style. The temple was designed in the form of a Greek cross and was made using red sandstone.

Figure 27: Govind Dev Temple



Source: indiaholiday.com

At a distance of 1 km from Vrindavan Railway Station, **Madan Mohan Temple** is one of the oldest temples in Vrindavan and is located near the Kali Ghat. Established by Sanatana Goswami, the deity of Madan Mohan was originally known as Madana Gopala. Worshipped along with Madana Mohan are Radharani and Lalita Sakhi. Krishna Dasa took care of the temple after Sanatana Goswami. The original Deity of Madan Mohan was discovered at the base of an old banyan tree by Advaita Acharya when he visited Vrindavan. The original image of Lord Madan Gopala was shifted from the shrine to Jaipur for safekeeping during Mughal emperor Aurangzeb's rule.

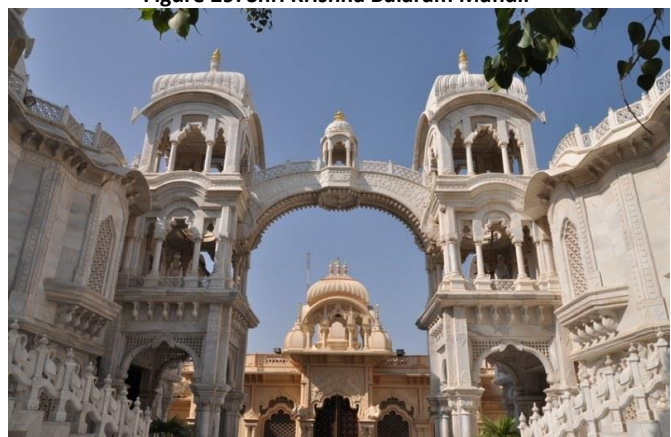
Figure 28: Madan Mohan Temple



Source: vrindavanonline.in

Lying at a distance of 2 km from Vrindavan Railway Station, **ISKCON Temple**, also known as **Sri Krishna-Balaram Mandir**, is a popular temple situated in Raman Reti, Vrindavan. This is one of the main ISKCON temples in India. The ISKCON Temple was built in the year 1975 and inaugurated on the auspicious occasion of Ram Navami. The foundation of the temple was laid by Swami Prabhupada, the founder of ISKCON. It was the first temple to be constructed by the International Society for Krishna Consciousness (ISKCON). The beautiful white marbled ISKCON temple has three sanctums.

Figure 29: Shri Krishna Balaram Mandir



Source: templeadvisor.com

The **Sri Ranganath or Rangaji Temple** is one of the biggest temples in the region and is dedicated to Lord Vishnu and Goddess Lakshmi. The construction of this temple began in 1845 and was completed in 1851, at a cost of 45 lakhs rupees. It was built by Seth Radha Krishna and Seth Govindadasa of Chennai. It is one of Vrindavan's largest temples and is built in South Indian architecture with eight gopuras built in Dravidian style. The deity in the temple is called Sri Ranganatha and is represented in sleeping posture on Shesh Nag.

Figure 30: The Rangaji Temple

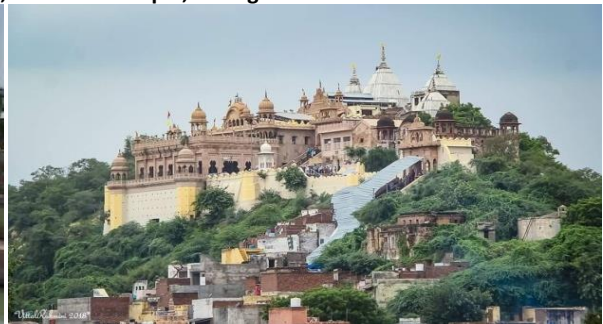


Source: wikipedia.com

### 5.4.3 Nandgaon

The small town is believed to be the home of Shri Nandji the foster father of Lord Krishna. It has a temple of Nand Rai on the crest of the hill. The town is largely visited for attractions like Yashoda Nandan, Nritya Gopal, Narsingha, Kadam, UdhavKyari. A little further is a lake named Pan Sarovar where Shri Krishna's cattle used to drink water.

Figure 31: Nand Sarovar (left), Nand Rai Temple, Nandgaon



Source: mytemplesindia.com

### 5.4.4 Gokul

As per Hindu mythology, this pastoral village about 10 Kms from Mathura was where lord grew up in secrecy. With coming of august Gokul witnesses the unprecedented celebration of Krishna Janmashtami and Nandotsav. The major attraction in Gokul is Dauji temple, Raja Thakur temple, Yogmaya temple, Gopal Lalji temple, Nandbhawan.

Figure 32: Yog Maya Temple (Left), Dauji Temple (Right)



Source: iskconvrindavan.com



### 5.4.5 Goverdhan

The small town of Goverdhan is settled on the hill named “Giriraj” as per legend this mountain by young Krishna for seven days on his little finger to save Braj people from torrential rainfalls caused by Indra. Other major attractions include Kusum Sarovar, UddhavKund, the temple of Hari dev, Chandra Sarovar (Parasauli) – associated with great poet Surdas and Mukhrai, Radhaji’s grandmother house.

**Figure 33: Kusum Sarovar, Goverdhan(Source: brajdiscovery.org)**



**Figure 34: Giriraj Hill, Goverdhan aerial view**



#### 5.4.6 Barsana

Hindu believes that this place was home to Radha Rani the soulmate of Lord Krishna. Among the numerous temples which dot the area, the most prominent is Radha Rani temple. Other places to visit are Jaipur temple, Peeli Pokhar, Mann mandir, Sankari Khor, Dangarh, and Mor-Kuti, Roop Sarovar, Prem Sarovar. The major celebration here is the birth of Radha Rani. Barsana is also known for its lavish celebration of Lathmar Holi.

Figure 35: Jaipur Temple, Barsana (Source: brajdiscovery.org)



Figure 36: Maan Mandir, Barsana (Source: brajdiscovery.org)





### 5.4.7 Mahavan

Known for the shrine of Mathuranath, this town is located 14 Kms away from Mathura. The temple of chhathipalna use to be the residence of Baldev mother Rohini. Mahavan is dotted with various shrines and temples – Yog Maya temple, Shayamlalji, Ramanreti, Brahmand Ghat, Chintaharan Mahadev. The magnificent chaurasi khamba is not to be missed.

Figure 37: Bhramand Ghat (left), Chintaharan Mahadev temple Mahavan (right) (Source: brajdiscovery.org)



## 5.5 Institutional Framework for Promotion of Tourism Activities

Tourism has been declared as an industry in Uttar Pradesh and the state has also set up a Directorate of Tourism Development. A review of the Directorate's activities indicate the undertaking of following roles: acting as a catalyst for tourism development and promotion; promoting, facilitation and where necessary providing tourism infrastructure and tourist facilities and services ; undertaking planning, pioneering, joint explorer functions; regulating the sector in the area of law and order, tourist police, handling of complaints, standardization of tourism goods and services; promoting the state within India and in overseas; association with central and other agencies; and enhancing laws and regulations to provide consumer protection through licensing and inspection of establishments (other than those registered with the MoT) engaged in providing services to the tourists. The state of Uttar Pradesh, has a centralized system of tourism development under the Department of Tourism, however, the decentralised approach has been adopted through the involvement of development authorities and local bodies.

The legal framework governing the role of the state in the tourism sector is based mainly on state Government Orders (GOs) and in some cases Acts of the State Parliament. Where these acts exist, it is observed that they are quite dated and no longer relevant to current or emerging conditions – especially as they relate to partnering with other government agencies for the sustainable use and management of public cultural and natural heritage assets of importance of tourism, for tourism infrastructure development, and with the private sector and the local communities in the provision, operations, and maintenance of tourist facilities, services, and infrastructure as well as marketing and regulation.

## 5.6 Summary

Braj has always been a religious pilgrimage where people come in search of peace and spirituality. Being the birthplace of Shri Krishna and many other religious beliefs, Braj attracts millions of tourist

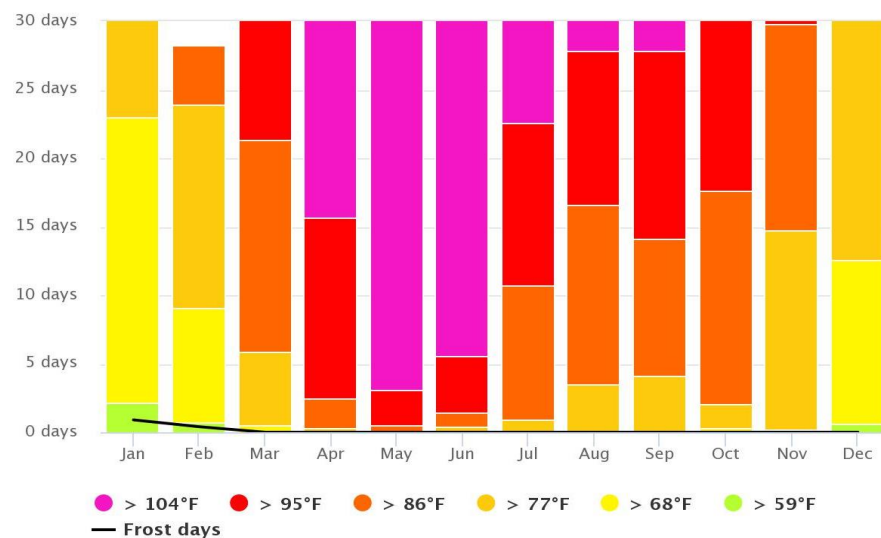
throughout the year. The tourist fall includes domestic as well as international tourist. Also falling within the Golden Triangle of NewDelhi- Jaipur-Agra, the tourist visit in the region has increased. Yamuna Expressway has also played a vital role in increasing the tourist inflow as it reduces the travel time between Delhi and Agra via Mathura. Braj region comprises of many religious spots such as Mathura, Vrindavan, Goverdhan, Barsana, etc. All of them have a spiritual and religious link within them. Other than the tangible resources, the non-tangible assets in tourism also attract tourist from all age groups such as Chaurasi Kos (84 Kos) Parikrama, Festivals like Holi, Janmashtami etc. The living culture of the region also attracts people from national and international boundaries. Vans (forests) being the major attraction as per the mythological beliefs, the region has a huge potential to revive the forests and to improve the river vicinity in order to maintain and attracts more tourist.

## 6 PHYSICAL FEATURES & ENVIRONMENT

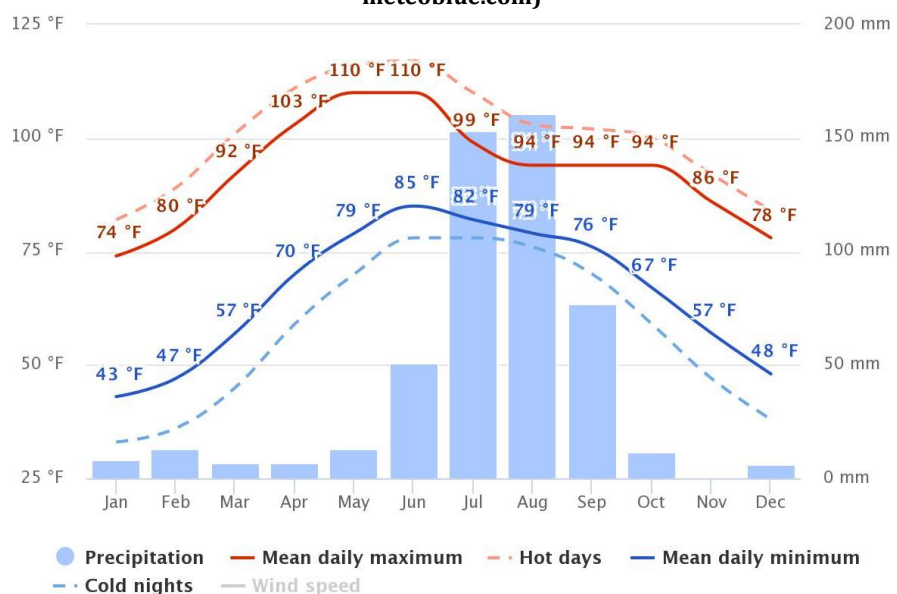
### 6.1 Climate

The area experiences sub-humid to dry climate with a mean annual rainfall of 650 mm. There are three distinct seasons namely summer, monsoon and winter. The bulk of annual rainfall occurs through south-western monsoon during the period of July to September (IMD, 2005). August is the wettest month with the maximum number of rainy days. Summers are quite warm with an average temperature of 41°C which occasionally shoot upto 45°C. The maximum daily duration of bright sunshine hours is 10.6 h which is observed during May month. The month of January is the coldest when the temperature goes down to 10°C or even less occasionally. Wind velocity is pretty high over the year with an average annual value of 6.3 kmph and going as high as 8.5 kmph during April.

**Figure 38: Average Temperature Distribution in Mathura District (Source: meteoblue.com)**



**Figure 39: Average Climate condition in Mathura District (Source: meteoblue.com)**



### 6.2 Topography

The region mainly lies in the Indo-Gangetic plain of almost uniform topography. Except for the hilly tracts of Rajasthan, the remaining area comes under Indo-Gangetic alluvium of Quarternary age of variable thickness ranging between 200 - 300 meter inventoried in different parts of Mathura district



show that the alluvial sediments constitute of different grades of sand and clay with Kankar in varying proportion. Kankar is a local name of calcareous concentrations of nodular limestone. It is found on both sides of the river Yamuna. Two principal aquifers have been encountered over the area. The first one lies between 30-80 meter and the second one between 125-175 meter below the ground. Deeper aquifers contain saline/brackish groundwater. The fresh groundwater potential of the area is limited. The groundwater in shallow aquifer occurs under unconfined state while in a deeper zone it lies under semi-confined to confined state. The depth to water table over the district lies between 5-10 meter below ground during the pre-monsoon season, with an average rise ranging between 0.5-1.0 meter during post monsoon.

### 6.2.1 Soil, Geology, and Geomorphology

The area is part of the western fringe of Ganga alluvial plain and slopes gently towards the east and along the drainage lines. The following geomorphological units have been delineated. The study is based on the visual interpretation of LAND SAT data and IRS IA DATA (Rai and Sinha 1992). The main three geomorphic units identified in the district are:

- Younger Alluvium Plain- Younger alluvium plain is mainly restricted to present river course and mainly represented by sand and loam.
- Older Alluvium Plain- This unit is mainly characterized by yellow clay, kankar, and Reh.
- Relict mountains, hills, and Ridges

**Table 15: Soil and Climate statistic of region**

SOIL & CLIMATE	
Agro-climatic Zone	Upper Gangetic Plains /South-Western Plains (Zone 5)
Climate	Semi-Arid - Hot Summers, Scattered Rainfall
Soil Type	Alluvial, Sandy and Clay Loam

### 6.2.2 Lithology

These relict mountains are present at Goverdhan, Barsana, etc. and belong to Delhi Supergroup. Here slopes are very high and they form mostly run off zone. Besides these mentioned landforms, these are some windblown Aeolian landforms i.e. sand dunes and sand sheets.

### 6.2.3 Hydrology & Drainage

River Yamuna is the major river that flows through the Braj region. It serves the region for drinking water and other ancillary activities.

The area is underlain by unconsolidated sediments which are deposited uncomfortably over the Pre-Cambrian basement Delhi System. The shallow aquifer group occurs down to a depth of 50.0 mbgl whereas deep aquifers group exist between the depth ranges of 135 - 185 mbgl. The aquifer material is generally composed of fine to medium grained sand. Kankars are invariably associated with sand and clay in older alluvium plain. Groundwater occurs under unconfined to semi-confined conditions in the shallow aquifer group and semi confined to a confined condition in the deep aquifer group.

Table 16: Rainfall and Groundwater of Braj region

RAINFALL & GROUND WATER					
Rainfall [in mm]	Normal	Actual	2009	2010	2011
	620		442	826	424
	Variation from Normal		-178	206	-196
Availability of Ground Water [Ham]	Net annual recharge		Net annual draft		Balance
	97424.36		74134.22		19531.71

The drainage of the district is controlled by river Yamuna and its tributary i. e. Patwaha which become flooded and torrential during monsoon. The Yamuna is a perennial river which enters in the region at village chaundras (in tehsil Chhata) and follows a meandering course from north to south forming the boundary between eastern tehsil Mat and western tehsil of Chhata and Mathura. Its banks are sandy and low but as the river advances southwards they become steeper and ravenous and sandhills begin to intermingle with the sandy slopes. The cultivation on the banks bordering the ravines is poor, the ravines themselves being devoid of vegetation and pitted with modular limestone.

## 6.3 Natural Resources & Heritage

### 6.3.1 Forests & Groves

Traditionally the forests of Braj have been graded into Vans, Upvans, Adhivans, and Prativans. The entire Braj region was largely a forest area with little habitation. Over 137 forests/groves are mentioned in the Braj Bhakti Vilasa – a 15th-century book – written by Narayan Bhatt. Currently, there is no trace of the physical existence of these forests at most of the places, yet they very much exist in the folklore, tradition and religious mythology. Many of the modern-day settlements bear their name derived from the erstwhile forests which existed once.

Figure 40: Forests as per a Vedic Description of the Braj Region (Source: holydham.com)



Strikingly, the forest-cover of Mathura w.r.to its geographical area is a mere 0.47% which is interesting even lower than that of the desert district of Barmer of Rajasthan (2%). These forests are still the

major drivers of tourism traffic in Braj especially the Braj Chaurasi Kos Yatras. They all have folklore associated with the places and if developed in a seamless fashion considering their sacred cosmology, they can become the single most important attraction for tourists.

### 6.3.2 Mounds & Hills

Mounds are a specialized feature of the region which has tremendous archaeological importance belonging to the Buddhist era. Hillocks of magnificent beauty exist in the Nandgaon block of the district. Apart from the NadishwarParvat at Nandgaon, BrahmanchalParvat at Barsana and GirirajParvat at Goverdhan, the Ashta Sakhi hills starting from Uncha Gaon and ending uptoDabhala (in UP) and going further into Rajasthan can be developed into magnificent cultural landscapes – comprising of lush green pasture lands, dense forests – and other tourist paraphernalia in tune with the cultural landscapes of Bamiyan Valley of Afghanistan which has now been declared as a World Heritage Site.

### 6.3.3 River and Other Water Bodies

#### i. River

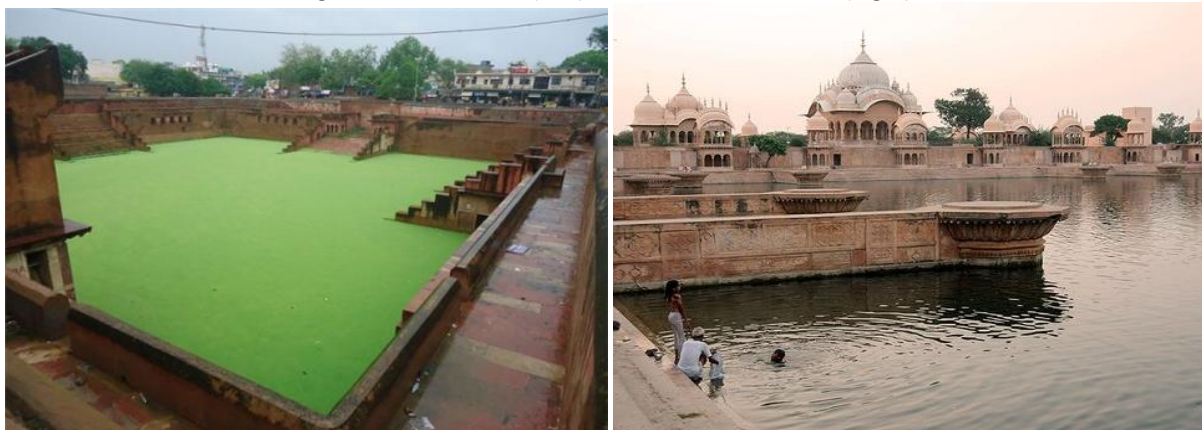
River Yamuna passes through the Region. Where Mathura lies in the west of the river and Vrindavan on the Eastern Banks of the river. According to legend the river Yamuna became pavitra or pure and holy when it rose to touch the feet of the infant Krishna when he was being ferried across from Mathura to Gokul by his father Vasudev. Today, it remains pure only in name.

#### ii. Kunds

Man-made small water bodies known as kunds dating back to the 5th to the 15th century served as important sources of freshwater in this region, culturally known as Braj. The significance of kunds was huge and went beyond the social and the spiritual. There were more than 1000 kunds in Braj, all of which were sources of fresh water in the past. The water was used for multiple purposes such as irrigation, domestic use, drinking, etc. Due to rapid urbanisation, a lack of maintenance and prolonged negligence in the last 200 years, 80 percent of the kunds became silted up and were relegated to gradual extinction.

There are about 300 kunds existing today. Out of them, 108 kunds have been surveyed by The Braj Foundation, U.P., and India which is a voluntary organization working for the all-round development of Braj.

Figure 41: Potara Kund (Left), Kusum Sarovar Mathura (Right)



Source: nativeplanet.com

## 6.4 Summary

Braj region, falling on the bank of holy river the Yamuna, has its the major area covered in alluvial soil. On an average Braj experiences a temperature around 45-49°C in summer and below 10°C in winters, with an annual rainfall of 650mm. The drainage of the district is controlled by river Yamuna and it's tributary i. e. Patwaha which becomes flooded and torrential during monsoon. Mythologically, the Braj region had huge land dedicate to Vans (Forests), Kunds and other natural features. But there is a great decline in the state of forest that comprises of a very low percentage in the area. Also, the number of kunds have decreased in the region, that too with deteriorating conditions.



## 7 LANDCOVER CHARACTERISTICS OF BRAJ REGION

Any development plan deals with the proper management and use of Land in the region. The land is the primary concern when it comes to envisaging the future and analyzing the present situation of a region. The existing Land cover of the region has been detailed out in further sections.

### 7.1 Jurisdictional Changes & Previous Efforts of Planned Development

Uttar Pradesh Braj Teerth Vikas Parishad has been constituted under the Uttar Pradesh Braj Niyojan Aur Vikas Board (Sanshodhan) Adhiniyam 2017 (U.P. Act No. 3 of 2017) for the preparation of a plan for preserving, developing and maintaining the aesthetic quality of Braj heritage in all hues - cultural, ecological and architectural, coordinating and monitoring the implementation of such plan and for evolving harmonized policies for integrated tourism development and Heritage conservation and management in the region, giving advice and guidance to any department/local body/authority in the district of Mathura in respect of any plan, project or development proposals which affects or is likely to affect the heritage resource of the Braj Region and for matters connected therewith or incidental thereto.

### 7.2 Existing land cover

The existing Landcover of the Braj region is dominated by agriculture cropland that constitutes 83% of the total land area. Since, the area lies in the Doab region of Ganga and Yamuna, with the deposits of alluvial encourages agriculture in the region. The cultivable area is spread throughout the district on either side of river Yamuna. The portion, east of river Yamuna is agriculturally more productive than the western portion because the eastern area mostly contains alluvial soil whereas in the western portion the soil is generally sandy. The land use distribution of Mathura is divided into developed and undeveloped land by Mathura municipal board.

Figure 42: Land Use and Land Cover of the Braj Region (Source: Bhuvan)

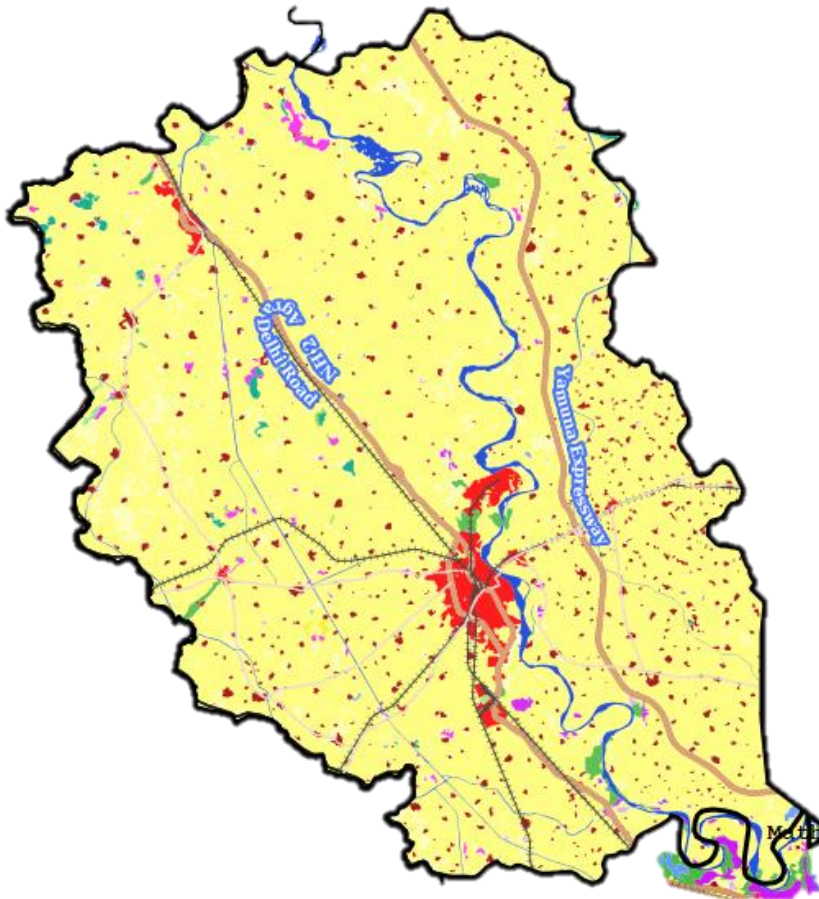


Figure 43: Land use/Land Cover of the Braj Region

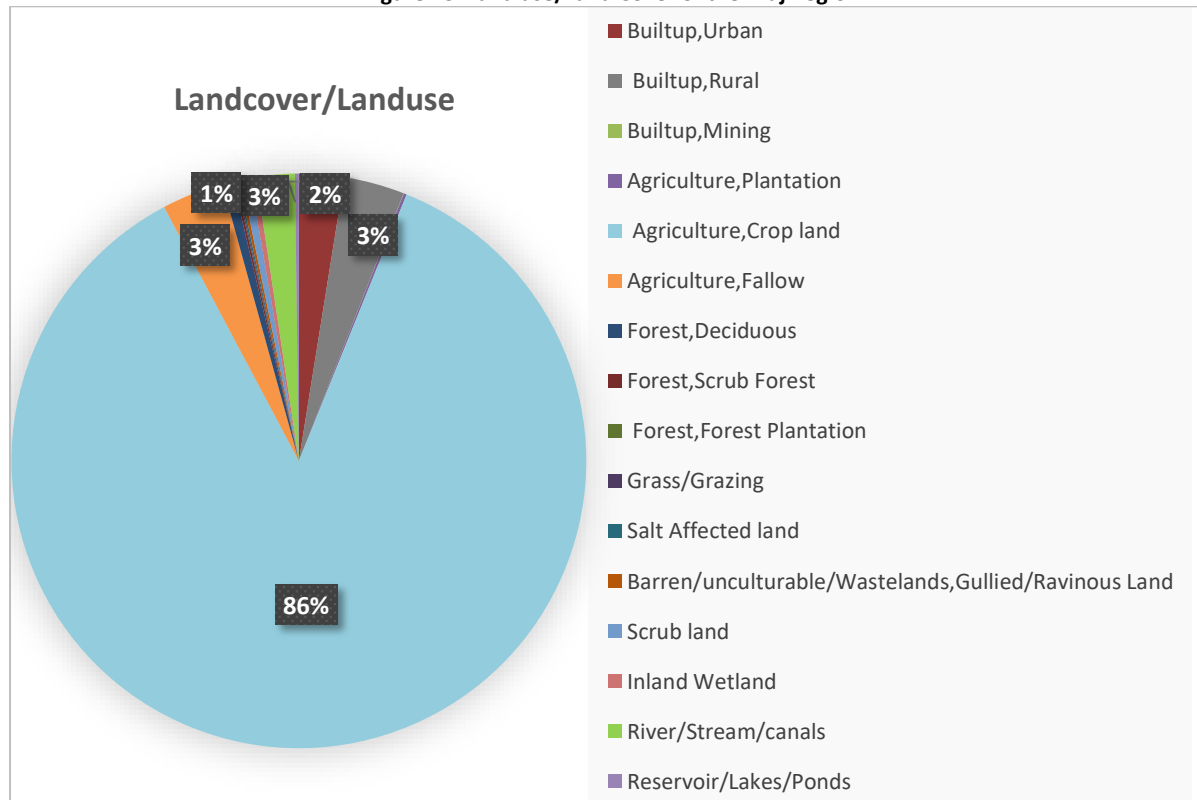


Table 17: Land-use Statement of BRAJ Region

S. No.	Landuse/Landcover	Area (Sq km)	Area in %
1	Built-up, Urban	84.62	2.53%
2	Built-up, Mining	0.52	0.02%
3	Agriculture Plantation	5.48	0.16%
4	Forest, Deciduous	20.38	0.61%
5	Forest, Scrub Forest	4.65	0.14%
6	Barren/unculturable/Wastelands, Salt Affected land	3.26	0.10%
7	Barren/unculturable/Wastelands, Gullied/Ravenous Land	5.73	0.17%
8	Barren/unculturable/Wastelands, Scrub land	16.33	0.49%
9	Inland Wetland	11.44	0.34%
10	River/Stream/canals	72.00	2.16%
11	Reservoir/Lakes/Ponds	7.30	0.22%
12	Built-up, Rural	113.79	3.41%
13	Agriculture, Crop land	2,875.83	86.11%
14	Agriculture, Fallow	115.87	3.47%
15	Forest, Forest Plantation	0.24	0.01%
16	Grass/Grazing	2.17	0.06%
	<b>Total</b>	<b>3,339.61</b>	<b>100.00%</b>

Source: Census of India, 2011

As can be seen from the graph and table shown above, an area of 200 sq km falls in the category of built-up comprising of rural (113.79 sq. km.) and urban areas ( 84.62 sq. km.). The agricultural area in the BRAJ Region (including Plantation, Crop land and Fallow land) is approximately 89.75% of the total land available in the region. Water bodies within the region accumulate to a total of 80 sq. km. which comprises of river, streams, ponds, canals, etc. Along the river bed, an area on 3 sq km is salt-affected land. As the region majorly contains Kankar, mining comes out to be nil.

### 7.3 Developable and Non-Developable Area

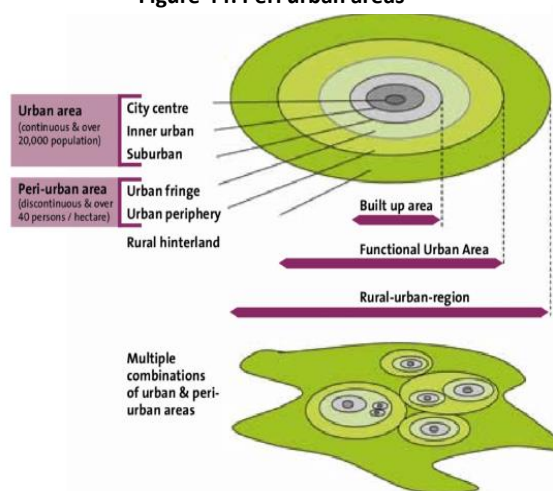
The developed land in BRAJ Planning Area is about 68% and undeveloped land is about 32% of the total area. Mountainous regions, present in Goverdhan Barsana, etc. are not suitable for any kind of development, and are known as Undevelopable land or barren steep slopes. Agricultural crop land comprises of 86% of the entire area. The land used for agriculture can be taken up for development while making proper provisions for alternative livelihoods for the farmers. The area is part of the western fringe of Ganga alluvial plain and slopes gently towards the east and along the drainage lines. Apart from this 3% of the entire region agricultural fallow land while 5% of the area is already developed out of which 3% is rural development and 2% is urban development. Forest area consists of 1-2% of the entire area. Thus, in order to maintain the ecological balance, the land area under forests shall be reserved and protected (in an ideal scenario). Out of the land that can be made available for development, those with a slope greater than 45 degrees cannot be considered suitable for development.

### 7.4 Peri-urban areas and urban villages

As a specific and non-neutral space, a peri-urban area refers to a transition or interaction zone, where urban and rural activities are juxtaposed, and landscape features are subject to rapid modifications, induced by human activities. A peri-urban area is not only a zone of direct impact experiencing the immediate impacts of land demands from urban growth and pollution but is also a wider market-related zone of influence that is recognizable in terms of the handling of agricultural and natural resource products. When urban area grows in a disordered manner and sprawl to peri-urban areas, this process can be referred to as peri-urbanization. Peri-urbanization can be regarded both as a driver and an effector of global environmental changes. Observing land use and land cover change over time can perceive the effects and impacts of urbanization on peri-urban areas.

The concept of urban villages was formally born in Britain in the late 1980s with the establishment of

Figure 44: Peri urban areas



the Urban Villages Group (UVG). Urban villages also come in the form of suburbs of metropolitan areas that are politically designated as villages. In urban planning and design, an urban village is an urban development typically characterized by medium-density housing, mixed-use zoning, good public transit and an emphasis on pedestrianization and public space. Urban villages are seen to provide an alternative to recent patterns of urban development in many cities, especially decentralization and urban sprawl.

Source: Research gate

They are generally purported to:

- Reduce car reliance and promote cycling, walking and transit use
- Provide a high level of self-containment (people working, recreating and living in the same area)
- Help facilitate strong community institutions and interaction



## **7.5 Summary**

Majority of the land in Mathura district is agriculture land as the region falls on the Doab region of Yamuna River. Only 5% of the entire region is developed. Since the region has strong rural character efforts shall be made to preserve the rural character of the region. Also, there is a potential to create strong rural-urban linkages in the region which would help in balancing the growth of urban areas.

## 8 INFRASTRUCTURE PROFILE OF BRAJ REGION

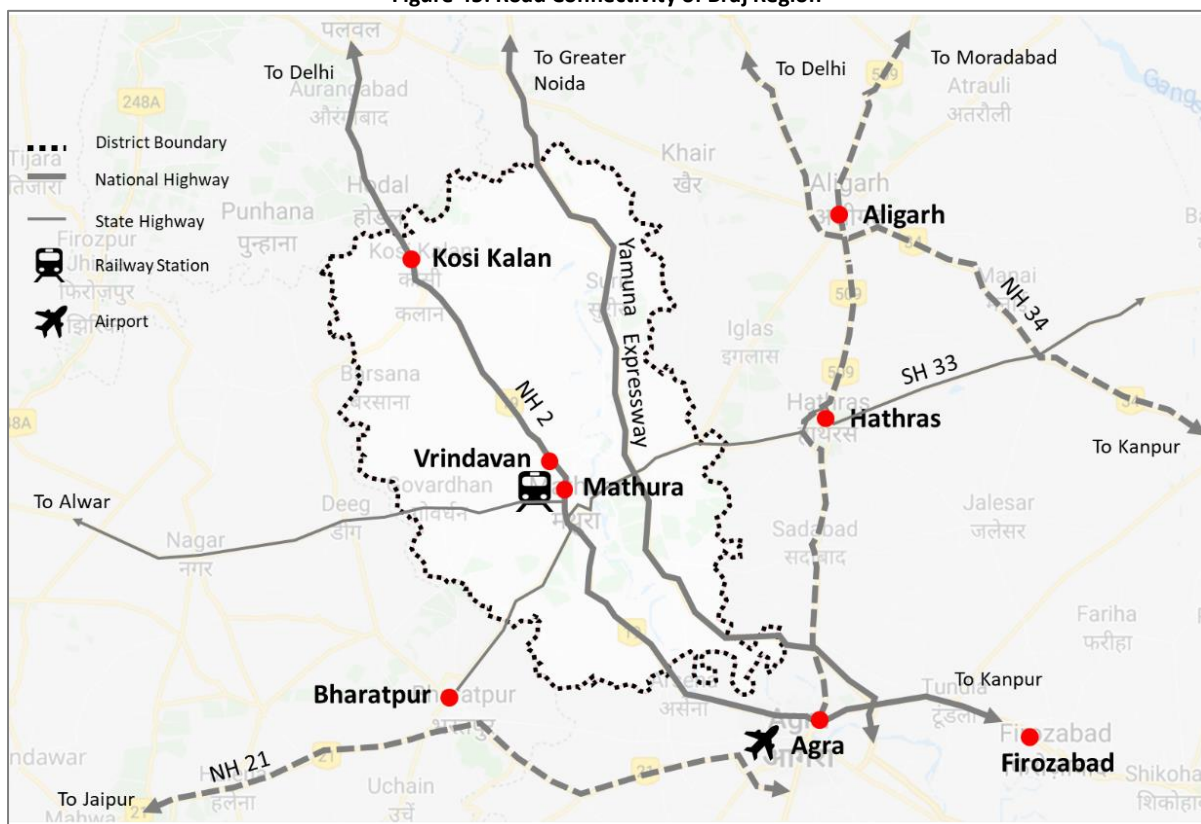
Physical Infrastructure plays a vital role in the development of any region. Braj region caters to a huge amount of floating population every year due to its religious and tourism importance. The larger goals and agendas for development shall have to focus on the physical structures such as transport and road networks, electricity, water supply, irrigation, and stormwater infrastructure. At the same time, Social infrastructure shall also be given equal importance with special focus given to health and education which are an important driver of the development process.

### 8.1 PHYSICAL INFRASTRUCTURE

#### 8.1.1 Road & Transportation Infrastructure

The presence of National Highway 2, also called Delhi Kolkata Road and six-lane controlled-access Yamuna Expressway running from Greater Noida to Agra, provides sublime connectivity to the region with rest of the places. However, the absence of a local Airport in Mathura and a greater distance from international airport i.e. Indira Gandhi International Airport, New Delhi regresses the connectivity to some extent.

Figure 45: Road Connectivity of Braj Region



Source: Google Maps

#### i. Roads

The Braj Region has major road access nodes from five areas i.e. from Delhi via Kosi Kalan, Hathras, Alwar, Bharatpur, and Agra. Mathura has good road connectivity among the city, towns, and villages

through national highways, state highway, major district roads, other district roads, urban roads, and village roads. The most prominent access link is the Delhi Agra route, National Highway 2 passing through Mathura, which has been converted into North-South Expressway with six-lane toll-way. The other important link is the Yamuna Expressway or Taj Expressway, which is an access controlled 6 lane expressway whose greater part lies in the Braj region and connects Greater Noida with Agra. Major roads in the BRAJ Region have been listed below:

**Table 18: Road category and length in the region**

Sr No	Category	Name of the Road	Length (km)
1	NH	Delhi Kolkata Road	82.78
2	SH	Pilibhit Bareilly Bharatpur Marg	50.30
3	MDR	Kosi Nandgaon Govardhan Shokh Marg	49.60
4	MDR	Chhata Shergarh Bajna Gomat Marg	34.18
5	MDR	Mathura Brindavan Naujheel Marg	45.62
6	MDR	Mathura Sadabad Marg	24.00
7	MDR	Mathura Deeng Marg	27.46

Source: Public Work Department, Uttar Pradesh

The inter-state / intra-state bus terminals are located at Mathura, Vrindavan, Kosi, Goverdhan, Chahta, Nandgaon, Shergarh, Mat, and Naujheel. The Mathura City in the Braj Region alone caters to more than 100 buses being operated by the UPSRTC to various part within and outside the region. Around 400 trips are being made per day by these buses of which around 80 trips are alone for Agra. (Tourism Master Plan of Braj Region, 2009) The mode of commuting within the city is mostly from Private vehicles i.e. two-wheeler and four-wheeler, intermediate public transport (IPT) such as E-rickshaw, Autorickshaw, etc. There is an absence of city bus services within the urban area but rural areas are well connected with the state-run transport system.

## ii. Railway

A busy broad-gauge double track electrified rail line from Delhi to South India bifurcates at Mathura into westbound (Mumbai) and southbound (Chennai) transit. Also, there is a broad-gauge single-track line from Agra to Jaipur via Mathura and Alwar. The railway station Mathura Junction (MTJ) is well connected to a number of Indian Cities with more than 200 train arrivals in a week. Thus, Mathura could be not only a junction for transit transportation for goods and people but also a major rail traffic monitoring center.

## iii. Air Transport

The nearest domestic airport to the Braj region is in Agra which is approximately 60 kms from the Mathura City. The Airport doubles up as a military base and is one of the biggest airbases of the Indian Air Force. Carriers like Air India serve Agra Airport, operation flights to domestic destinations like Delhi, Mumbai, Chennai, Hyderabad and more. At present, about 35 domestic flights depart from Agra Airport weekly.<sup>1</sup>

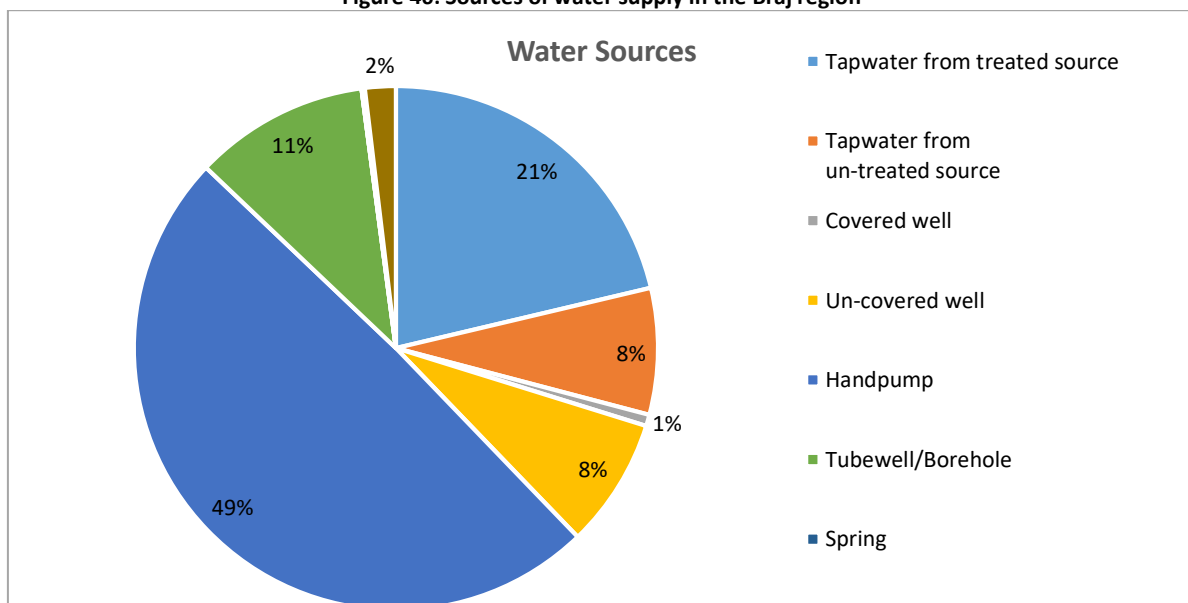
<sup>1</sup> Online Source: <https://www.skyscanner.co.in>

The nearest International airport located from the Braj Region is Indira Gandhi International Airport, New Delhi, which is approximately 160 kms and it takes about 3 hours to reach to the Mathura City from the Airport.

### 8.1.2 Water Supply

Uttar Pradesh Jal Nigam (UPJN) is responsible for the construction & production and Nagar Palika Parishad (NPP) is responsible for the distribution, operation, and maintenance of water supply system and its schemes handed over to them by UPJN. The source of water supply to the city is both surface and underground water. The river Yamuna passing through the city is the source of surface water. However, surface water supply is limited; Mathura is still depending upon the underground sources to a major extent in order to meet the needs of domestic, commercial and also for industrial purpose. Underground sources are utilized through 73 bore wells of different capacities are able to supply 25 MLD.

Figure 46: Sources of water supply in the Braj region



#### i. Sources of Water

The major source of water for the region is hand pump i.e. 49.3 % as per census 2011. Followed by tap water from a treated water source.

#### ii. Water Supply Network

Construction of Gokul Barrage on river Yamuna for providing drinking water to Agra, Mathura and Vrindavan towns was taken up in the year 1990 and has since been completed. At present, the surface water production is 100 MLD at Gokul Barrage, some 15 Kms downstream from Mathura, whereas the NPP is able to supply 10 MLD out of the total production due to insufficient collection and distribution system. The water drawn from both the sources is treated and stored in these elevated and surface reservoirs, tanks and finally supplied to the consumers daily. A number of individual tap connections existing in the city are around 22,000 (domestic, commercial, industrial, etc.) and these connections are not metered.

### **iii. Existing Demand & Supply**

The present water demand for the region at a standard of 135 lpcd is 3,37,50,000 liters.

#### **8.1.3 Sewerage and Sanitation**

In Mathura, there are 06 STPs of 59 MLD cumulative capacity, out of these 04 STPs are oxidation pond and 02 are UASB (Up-flow Anaerobic Sludge Blanket). The average capacity utilization of STP infrastructure is approximately 50%. The major issue is an underutilization of STP capacity because all the drains are not diverted to the STPs. Out of existing 06 STPs, 02 STPs (01 in Vrindavan and 01 in Govardhan) are achieving the prescribed norms. The remaining 04 STPs (02 in Mathura, 01 in Vrindavan and 01 in Govardhan) are based on oxidation pond technology and they need to be upgraded.

Open sewer drain network collects the wastewater and sent them to Sewerage Treatment Plants (STP) for treatment. The inner-city septic tanks and sewer networks have become defunct due to poor maintenance and the sewer finds the roadside open drains and finally discharged into Yamuna River directly causing serious water pollution. Also, there are no separate drains for stormwater, creating pressure on the existing sewer network during the rainy season.

#### **8.1.4 Solid Waste Management**

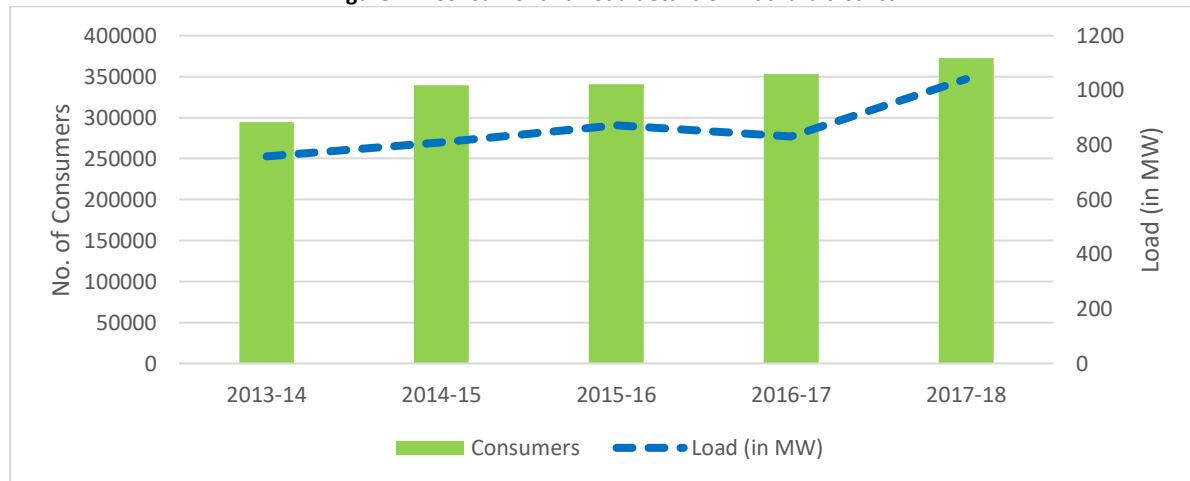
Mathura has been awarded as the Fastest Moving City in the Medium Category of 3-10 lakh population in Swachh Sarvekshan Ranking 2019. The city has also been able to achieve 100% door to door garbage collection in all its wards. However, at present the Mathura Nagar Municipal Corporation collects the municipal waste of entire Mathura City and dumps in a solid waste disposal site in at Koluka Nagla, Laxmi Nagar in Mathura in a non-scientific manner and the practice is not in compliance with the guidelines of the MSW Rules. A municipal solid waste processing plant at Baldev Road, Mathura is underway, of capacity to process 180 tonnes per day of waste. It is also proposed that a portion of the MSW would be processed for manufacturing RDF that shall be supplied as a source of generation of thermal energy as a replacement of coal.

Two projects under Namami Gange Program are sanctioned, in Mathura and Vrindavan for sewerage upgradation and renovation of STPs costing Rs. 460 crores and Rs. 30 crores in Mathura and Vrindavan respectively.

#### **8.1.5 Power**

In Uttar Pradesh, the electricity is supplied by Uttar Pradesh Corporation Limited to nearly 2 crores consumers with a total connected load of 50918 MW. In Mathura, the total number of consumers as on 31st March 2018 is 3,72,562 and the district has a total of 65 substations of 33/11 KV with a capacity of 720 MVA installed at present. In the rural region, complete 730 villages in the district have already been electrified by L.T. mains.

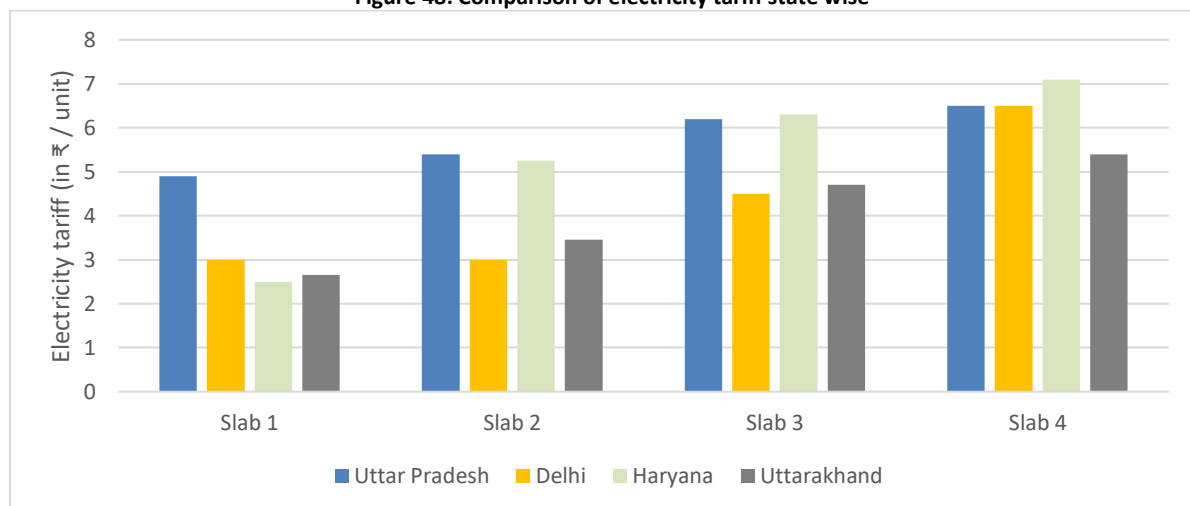
**Figure 47: Consumer and Load details of Mathura district**



Source: Statistics at Glance 2017-18, Uttar Pradesh Power Corporation Limited

As per the approved tariff in 2017-18 the energy charge for domestic use in Rural area is a minimum of 3.00/ kWh for first 100 units per month upto a maximum of 5.50/ kWh for units above 500 per month while for Urban areas, it is a minimum of 4.90/ kWh for first 100 units per month upto a maximum of 6.50/ kWh for units above 500 per month.

**Figure 48: Comparison of electricity tariff state wise**



Source: <https://www.bijlibachao.com/news/domestic-electricity-lt-tariff-slabs-and-rates-for-all-states-in-india-in.html>

## 8.2 SOCIAL INFRASTRUCTURE

Social infrastructure including health infrastructure and education infrastructure is the basic requirement for providing quality life and has a significant role in promoting growth and competitiveness in the economy. The following section explains the current level of elements that forms the education and health infrastructure in the Braj region.

### 8.2.1 Education

Mathura is a hub for higher order educational facilities for the Braj region with the presence of proficient institutes like GLA University, R.K. Group of Institutions, long-dated Pandit Dindayal Upadhyaya Veterinary University, etc. A total of 74 colleges are present in the district including one State College and 8 State Aided colleges, offering a variety of courses in Science, Commerce, Management, Art, and Law. Although there is an absence of Medical college in the district and the nearest Medical College is in Agra at 56 km distance.

Table 19: No. of schools

Sr No	Type	Schools (Urban)	Schools (Rural)	Total	As per URDPFI
1	Primary School	646	982	1628	509
2	Middle School	284	699	983	339
3	Secondary School	121	238	359	

Source: Census of India 2011

The region is having enough basic education (up to 10+2) facilities when compared to the norms but it reports<sup>2</sup> to have great spatial variations in the children's attainment in primary education at the block level where Farah and Goverdhan blocks have the attainment of children in the primary school of less than 85%.

### 8.2.2 Health

Mathura is now holding its competitive edge in the hospital sector and has 75 hospitals with 1706 bed capacity along with one District hospital. It also has a Tuberculosis clinic, nursing home, and female welfare center along with several private clinics and nursing homes, active in providing medical service to the people of the region and outside. There also are several homeopathy and ayurvedic clinics present, especially in Mathura City. The state also has the exemplary facility for anywhere ambulance by dialing 108 and 102 for pregnant ladies which also is widely popular in the Braj region.

Table 20: Health facilities available

Sr No	Health Facilities	No of Units
1	Anganwadis	1639
2	Primary Health Centres	29
3	Primary Health Sub-Centres	215
4	Dispensaries	NA
5	Hospitals	75
6	Hospital Beds	1706

Source: Census of India 2011

<sup>2</sup> Source: Research Paper, Author Kapil Kaushik, "Problems and Prospects of primary education in Mathura district: A geographical analysis"



However, water borne and air borne diseases in the area show increasing trends especially due to the large population living in slum areas in unsanitary conditions and also the presence of high levels of particulate matter in the air, which therefore continuously poses extreme pressure over the limited healthcare resources.

### **8.3 Summary**

The entire BRAJ area has good connectivity within the region as well as with other parts of the country. However, the absence of an airport in Mathura regresses the connectivity up to some extent. In terms of water supply, half the region gets water through hand pump and the region still depends on groundwater to some extent. In the case of sewerage and solid waste management, the scenario is not so promising in terms of service delivery. When it comes to education, the region has enough basic education facilities, which still needs to be verified on the ground, during our Primary Household surveys. In terms of health facilities, the region has an exemplary facility for anywhere ambulance by dialing 108 and 102 for pregnant ladies which also is widely popular in the Braj region.

## 9 SOCIAL AND CULTURAL PROFILE OF BRAJ REGION

### 9.1 Fairs and Festivals

Braj is known for its religious celebrations and attracting huge pilgrims all around the year. This city is filled with religious prayers, festivals, and fairs throughout the years. There is some or the other celebrations which continue to attract people from the entire world. Some of such famous festivals and fairs are as follows:

1. Barsana or 'Latthmar' Holi is celebrated at Barsana (48 km from Mathura). As the legend goes, Lord Krishna used to visit Barsana with his friends (Gopas) to play Holi with his beloved Radha and her friends (Gopis). While playing, the gopas were chased by the gopis with 'Lathis' (bamboo) in their hands, thus giving rise to the 'Latthmar Holi' of Barsana. The festival is celebrated with colored powder and colored water at the Ladliji temple, dedicated to Sri Radha Rani.

Figure 49: Latthmaar Festival Barsana



(Source: indiatravels.com)

2. Krishna Janmashtami in the months of July/August is celebrated as the birthday of Lord Krishna and thousands of devotees crowd the place from all over the country. Holi is also celebrated with as much enthusiasm.
3. Goverdhan Puja is known as the Annakut and is considered as the day when Lord Krishna defeated Indra dev. This is celebrated on the 4th day from Diwali.
4. Once a year there is a grand car festival (Ratha Yatra) known as Brahmotsava during the month of Chaitra (March-April). This festival lasts for 10 days. According to mythology, this Rath Yatra symbolizes the Suryanarayana (The Sun God) nature of Lord Jagannath. During the Rath Yatra, it is believed that Lord Shri Jagannath, Devi (Goddess) Subhadra and Lord Thakur Shri Balaram visit their devotees and bless them as they tour through the city seated in their Chariots.
5. After Barsana, Holi is also celebrated at Baldeo (the town named after Balram; 20 km from Mathura) and Nandgaon (7 km from Barsana).

## **9.2 Tourism Resources & Assets**

The resources of the Braj region may broadly be divided into (a) cultural and (b) natural heritage features. Its cultural heritage features may in turn be divided into tangible components such as pre-historic and ancient archeological sites, historical buildings, monuments, and religious places and temples, and intangible components or its living cultural heritage represented by its art and craft, its music and dance traditions, its cuisine, and its religious belief systems. The natural heritage may be divided into natural landscapes, floral landscapes, and fauna. Representative examples of these landscapes are usually presented as forests having religious/ mythological significance.

### **9.2.1 Temples, Architectural & Heritage Structures**

Brajbhoomi is a land of temples. A very large number of temples dedicated to different deities and belonging to various sects are spread over the entire region. Many beautiful and ancient temples, descriptions of which can be found in manuscripts and religious texts of scholars, were destroyed during Aurangzeb's reign (1658-1707). Later, new temples were built at the original sites of the old ones, but their architectural construction and size were altered.

The temples are maintained by devotees of various sects. Contributions for the maintenance and improvement of the temples were made by philanthropists and devotees. Thousands of people visit these temples every year, and some facilities need to be provided for them at the temples. Visitors not conversant with the local language or familiar with the history or culture of the region can be provided with brochures with detailed information about the temple and the deity. For those visitors who are interested in the religious background of the temple, booklets to be prepared. Most of the historical and traditional temples are located in Vrindavan and Mathura.

### **9.2.2 Kunds**

Brajbhoomi is replete with kunds. Most of the Kunds and Sarovars have been built to demonstrate the water bodies that are associated with Lord Krishna and have great religious significance. Many of them are also interesting from the architectural and archeological points of view, though a lot of them are in a dilapidated condition. They lack environmental maintenance, cleanliness, and preservation.

### **9.2.3 Ghats**

The major Ghats in Brajbhoomi is in Mathura and Vrindavan and most of them have been constructed at the place of religious importance for the convenience of pilgrims who want to bathe at the spots which are associated with Lord Krishna. The river Yamuna itself is an extremely important religious element. As a matter of fact, most of the Yatra activities begin at the Ghats at Mathura. The Ghats here are practically used throughout the year. During the pilgrimage, the Yatra begins from the Vishram Ghat at Mathura, where people take vows committing themselves to a specific code of conduct. Vishram Ghat is considered to be the spot where Lord Krishna rested after killing the tyrant Kansa. The Ghat gets overcrowded and people overflow into the market area. The Ghat has some interesting architectural features. Besides its functional use, its value as an ancient example of architecture should be recognized and preserved better. The Parikrama also culminates here where

thousands of pilgrim's bathe renouncing the vows taken before the Yatras. On the second day after Deepawali too, many pilgrims come to this Ghat for a holy dip.

**Figure 50: Ghats along the River Yamuna**



Source: brajdiscovery.org

### **9.3 Summary**

The region has a very strong cultural and religious importance. Many festivals are celebrated throughout the year to celebrate the “Krishna Leelas”. The tourism resources of the Braj Region are divided into two parts i.e. Cultural and Heritage. Brajbhoomi has many temples dedicated to different deities and belonging to various sects. The region also contains many Kunds and Ghats which have significant religious and cultural importance in the history of the region.

## **10 REVIEW OF EXISTING STUDIES, POLICIES & REPORTS OF BRAJ REGION**

Study of existing reports and policies is a major step to develop an understanding of the area or the project. In order to understand the Case study area, previous Case studies and reports were studied in the Braj Region. The Literature reviewed are as follows:

- State Policy for Tourism Development
- Tourism Master Plan of Braj Region prepared by IL& FS and Braj Foundation for Mathura Vrindavan Development Authority.
- Environmental Assessment report of Rehabilitation of Kunds in Braj Region.
- Yamuna Expressway Industrial Development Authority (YIEDA)

### **10.1 STATE POLICY FOR TOURISM DEVELOPMENT:**

The state tourism policy of Uttar Pradesh has certain specific objectives which need to be kept in mind for any coordinated development programs for the region. These include:

- Tourism projects must be able to provide economic benefits to the local population and enhance employment opportunities.
- Quality must be a key consideration for any project approval.
- The project must be integrated through a master plan.
- Projects must improve and diversify the tourism product base with the focus on adventure, religious and monument-based traveler.

The specific targets within the tourism industry include:

- Increasing the hotel capacity of the region.
- Increasing the visitation numbers
- Enhancing the investment in the tourism industry.
- Increasing revenue per visitor through a superior visitor profile, better facilities and value addition to the tourism products.

These aspirations as projected by the State Tourism Policy, have the following strategies for development:

- Development of basic infrastructure as the key to attract tourism in the region.
- Importance of involving the private sector to pursue meaningful development plans
- Importance of planning tourists' circuits through master planning.
- Dovetailing development funds from different sources.
- Restoration of heritage properties, since these form the key to tourism potential in the region.
- Importance of setting standards and quality benchmarks.

The State Tourism Policy also mentions themed circuits, which have to prioritize for development.

These include:

- Buddhist Circuits
- Bundelkhand Circuits
- Braj (Agra- Mathura) circuits
- Avadh Circuits
- Vindhya Circuits
- Water cruises Circuits (down the river Ganga)



## 10.2 TOURISM MASTER PLAN OF BRAJ REGION

Uttar Pradesh, as a tourist destination, has been attracting approximately 23% of the domestic tourist traffic and 11.31% of the foreign tourist traffic to India. There has been an increase of 19.42% in the domestic tourism in Uttar Pradesh, as compared to 26.07% of the nation as a whole. The increase in foreign tourists in Uttar Pradesh shows an increase of 28.15%, as compared to the national increase of 40.43%. The figures highlight the rapid growth rate of foreign tourists in the state as compared to domestic tourists. Overall the tourism growth rate in the state is observed as 19.53%, as compared to the national overall growth rate of 26.39%. In the context of the Government of Uttar Pradesh's (GoUP) goal to promote tourism as a priority sector with greater potential to contribute to the regional tourism development in the state, and with this initiative, through Mathura Vrindhavan Development Authority (MVDA), the GoUP initiated a Master Plan preparation in the Braj region.

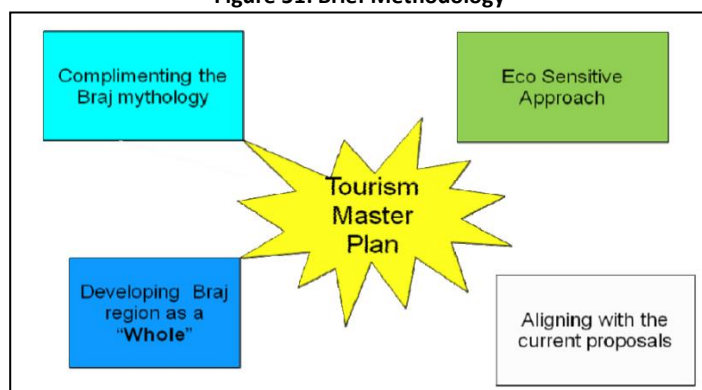
The objective of this project was to assist the MVDA in preparing a Tourism Master Plan for the Braj region, Mathura district, providing an integrated strategic framework for tourism infrastructure development following the principles of environmentally and culturally sustainable, socially inclusive, and economically and financially viable tourism. In addition to the Tourism Master Plan for Braj region, the study is intended to provide the basis of a project preparatory technical assistance that will support the MVDA, Department of Tourism, GoUP in preparing an investment package for tourism infrastructure development for possible financing & implementation.

As per the pilot surveys initiated by Ministry of Tourism, Government of India, the total visitors in the Braj region for the period of 2005-06 were observed to be 60.8 lakhs, which accounts for 34.2% of the total tourism of the state. The Braj region attracts tourists and pilgrims from various entry points including tourists coming from Delhi towards Agra via NH-2 & vice-versa (North-South Corridor), from Bharatpur / Jaipur (West), from Alwar (North West), and from Hatras –Aligarh (East).

### The reason behind making Tourism Master Plan

The Braj region had been passing through the dichotomy of ample resources with meager planning. The Mathura district tops the list of revenue contributors for the entire state of Uttar Pradesh. The heavy influx of pilgrims of various hues brings along a huge influx of charity money to the various religious institutions across the region. An impressive amount of private investment too flows into the region due to its strategic locational and religious importance. Yet the area is in terrible shape due to unplanned urban growth.

Figure 51: Brief Methodology



Source: Tourism Master Plan



## Phases of Tourism Master Plan

The Tourism Master Plan has outlaid a time frame of five years to initiate development across the Braj region. The proposals have been envisioned in three phases: -

### I phase: Projects to be initiated in the First year

- Projects largely to be done with Government funds laying basic infrastructure i.e. accessibility, electric & water supply, etc.
- Projects identified to avail the Grants & subsidies from State/ Central government schemes
- Projects to be done with Community participation/ NGOs in reviving the Ecology of the region (Kunds, forests, etc.)
- Advertisement and Marketing of the region

### II phase: Projects to be initiated in the Second & Third year

- Projects to be done with PPP mode with a Viability gap Funding approach
- Projects with approved support of Grant & subsidies for State/ Central government under different schemes
- Projects to be done with Community participation/ NGOs

### III phase: Projects to be initiated in Fourth & Final year

- Large Tourism Projects to be done with PPP
- Projects with support of Grant & subsidies from State/ central Govt under

### Different schemes

- Projects to be done with Community participation/ NGOs
- Projects linking the developments coming from different agencies.

### Clusters

For the purpose of survey and documentation, organization of data and ease of implementation of projects, the Braj region of Uttar Pradesh has been divided into five sacred clusters. The clusters follow the administrative boundaries of the block and tehsil. Out of the 10 development blocks, 5 clusters have been identified namely –

- The Barsana – Nandgaon Cluster (NW of Braj Region)
- The Mathura – Vrindavan Cluster (Central Braj Region)
- The Goverdhan Cluster (SW of Braj Region)
- The Mat Cluster (NE of Braj Region)
- The Gokul Cluster (SE of Braj region)

The Barsana - Nandgaon cluster comprises of Nandgaon and Chhata Block; the Mathura – Vrindavan Cluster comprises of Chaumuha, Mathura and Farah Block; the Goverdhan Cluster contains Goverdhan block; Mat Cluster contains Mat and Naujheel Block and Gokul Cluster contains Baldev and Raya Block.

There are 150 identified villages with over 750 sites. The selected list of prioritized villages for development, cluster-wise in the Braj region

While developing the proposals in the Tourism Master Plan, it is intended to –

- Integrate and Balance the proposals across the Braj region (cluster-wise)
- Not overlap, with other proposals/ projects.

Therefore, the Tourism Master plan

- PART ONE - Facilitates the Implementation of “already laid projects”
- PART TWO - New developments proposals in every cluster

### **10.3 ENVIRONMENTAL ASSESSMENT REPORT OF REHABILITATION OF KUNDS IN BRAJ REGION.**

The UP Government envisioned Uttar Pradesh Pro-Poor Tourism Development Project with the financial support of World Bank is one of the stepping stone in restructuring its tourism sector with a view to increasing benefits to local communities and improving the management of its tourism destinations. “Rehabilitation of Bankey Bihari Temple Area, Vrindavan” is one of the identified sub projects proposed under UP Pro-Poor Tourism Development Project. The project area is centered on the area of Banke Bihari Temple in Vrindavan and the Parikrama Marg in the west and Bhaktivedanta Marg in the east. The subproject is expected to provide a broader and improved experience to tourists visiting one of the most important destinations in the

Braj region – Vrindavan – and one of its most significant assets – the Banke Bihari Temple area – while upgrading the infrastructure and services to improve living conditions for its residents.

Detailed Project Report for “Rehabilitation of Banke Bihari Temple Area, Vrindavan” has been prepared and approved by the Department of UP Tourism Therefore, scope of this report is limited to assess environmental impacts of the components proposed under the said project and to determine the specific measures to reduce, mitigate and/or offset potential adverse impacts during pre-construction, construction and operation phases of the project. Project screening was carried out as per the screening criteria described in the Environment and Social Management Framework of UP pro-poor tourism development project that concludes that proposed sub project falls in

‘Category – B’ with minimal impact and have overall positive benefits on the life and environment of the people. There has been no reported land acquisition or livelihood losses to be caused under this sub project. As per environmental and social management framework guidelines of Uttar Pradesh Pro Poor Tourism Development Project; Environment impact assessment was conducted for addressing possible issues/ concerns arising from the proposed project. Impacts of activities identified during the assessment under categories of Construction and Operation phase. Although no such permanently negative or adverse environmental or social impacts were identified, there were certain temporary impacts, for which appropriate mitigation plans have also been suggested.

The environmental management plan ensures to suggest appropriate mitigation measure against the issues/ concerns identified during the environmental and social analysis study. All the social and environmental issues were appropriately studied and have been substantiated using appropriate evidence, to ascertain the magnitude of their impacts. Even the issues of public grievances and public notice have been taken care in the report to confirm transparency during the project implementation. The report also ensures that well defined institutional mechanism is in place to monitor and evaluate the progress of the project during construction, implementation and operation phases.

### **10.4 YAMUNA EXPRESSWAY INDUSTRIAL DEVELOPMENT AUTHORITY (YIEDA)**

The Yamuna Expressway Project is conceived with the idea to not only reduce the travel time between New Delhi and Agra but also to open up an avenue for Industrial and urban development of the region and provide the base for convergence to tourism and other allied industries.

The Yamuna Expressway has been developed to fulfill the following objectives: -

- To provide a fast-moving corridor to minimize the travel time from Delhi to Agra.
- To connect the main townships/commercial centers on the Eastern side of river Yamuna
- To open up an avenue for industrial and urban development of the region and provide the

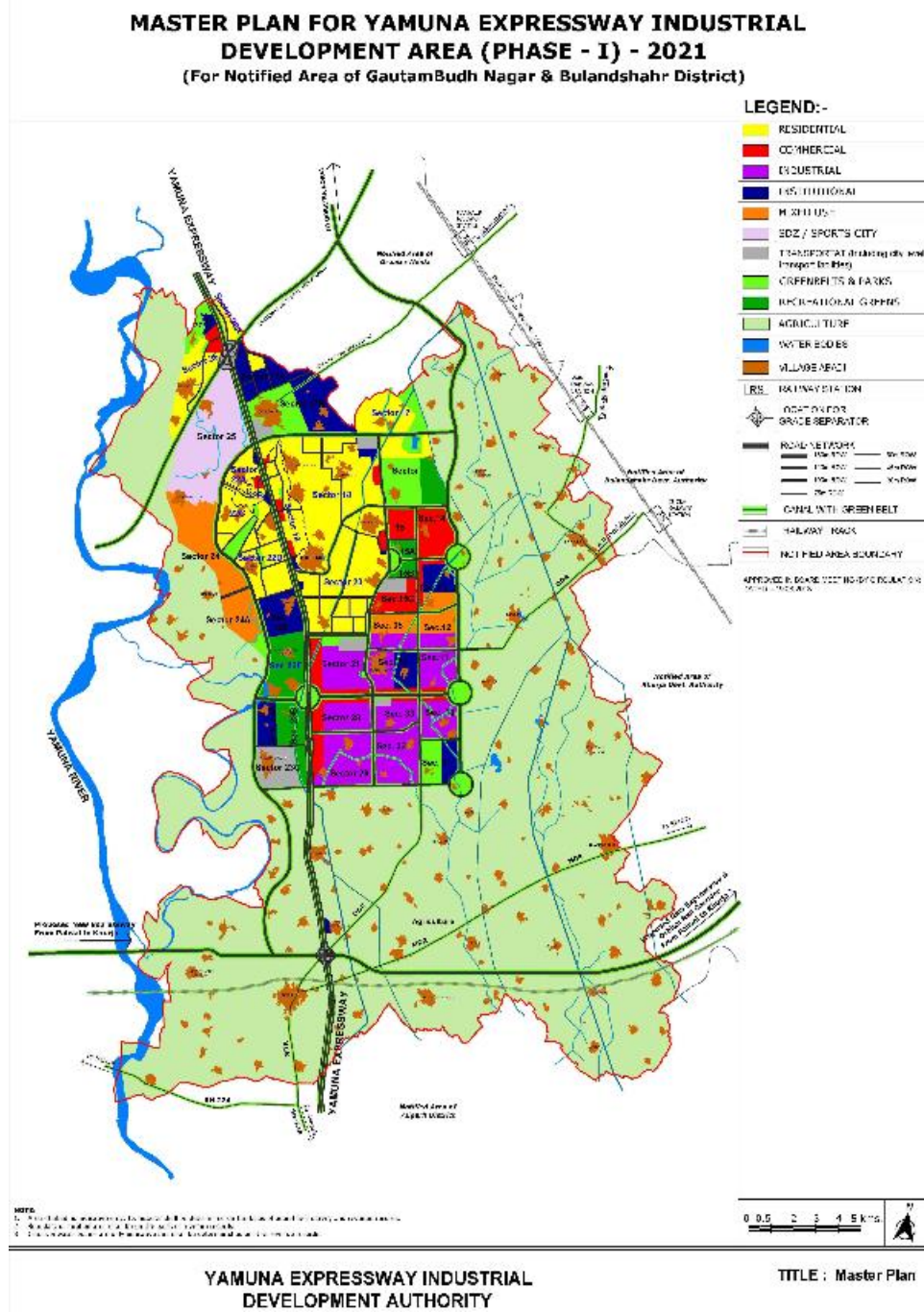


### Table 21: Phasing of the Yamuna Express Way

District	Area (sq km)	Phase
Gautam Budh Nagar +Bulandshehar	584	Phase 1
Aligarh	2105	Phase 2
Mathura		
Mahamayanagar		
Agra		

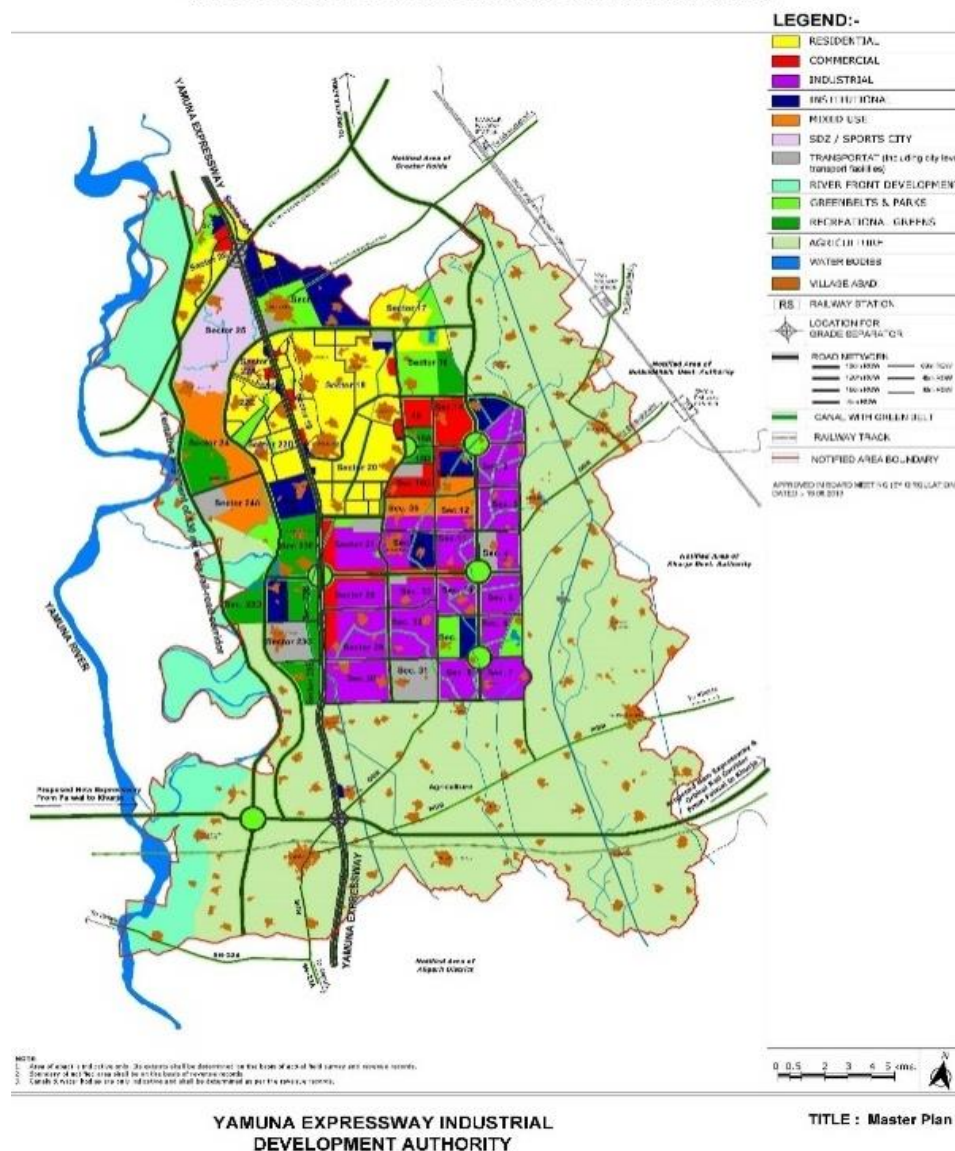
Master Plan for the phase 1 development of Gautam Budh Nagar and Bulandshaher for the year 2021 and 2031 are shown in the following figures below.

**Figure 53: Master Plan for YIEDA Phase I 2021(Source: Yamunaexpresswayauthority.com)**





**Figure 54: Master Plan for YIEDA Phase I 2031**(Source: Yamunaexpresswayauthority.com)  
**MASTER PLAN FOR YAMUNA EXPRESSWAY INDUSTRIAL DEVELOPMENT AREA (PHASE - I) - 2031**  
 (For Notified Area of Gautam Budh Nagar & Bulandshahr District)

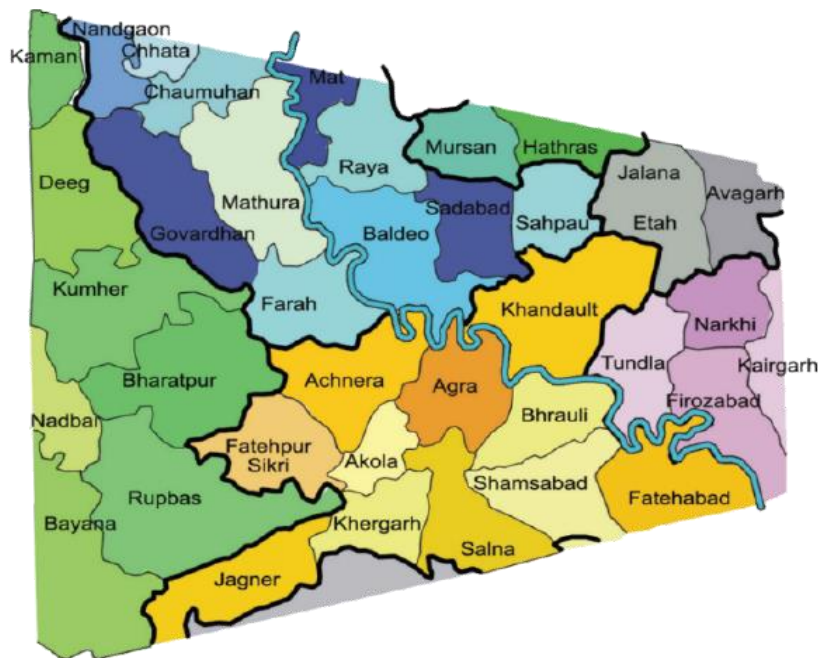


In order to carry out the development work along with the six districts, the Yamuna Expressway Industrial Development Authority has notified approximately. 1189 villages of District Gautam Budh Nagar, Bulandshahr, Aligarh, Mahamaya Nagar (Hatrass), Mathura and Agra under vide various Notifications of Govt. of U.P. The total of 431 villages are notified in Mathura District. List of villages falling under Mathura District are Attached in Annexure and these villages will follow the master plan prepared by Yamuna Expressway Industrial Development Authority for the development. To prepare the development plan of the Mathura district, here noted as Braj Region, the regulations within the YEIDA will be followed for the development of this notified region in YEIDA boundary.

## 10.5 TAJ TRAPEZIUM ZONE (TTZ)

The area is part of the Braj Region – a region which still resounds with the anecdotes of Shri Krishna, bringing a large number of devotees from India and abroad. With the significance of the region, an assured tourist and pilgrim traffic, there is a great potential for the growth of the region.

Figure 55: Taj Trapezium Zone



Taj Trapezium Zone (TTZ) is a defined area of 10,400 sq km around Taj Mahal to protect the monument from pollution. Concerns regarding the environmental threat to the Taj Mahal was voiced in the Honourable Supreme Court through a Public Interest Litigation filed by the noted “Green” Advocate Mr. M.C.Mehta. The concern has been articulated in the landmark judgement of Honourable Justice Shri Kuldeep Singh dated 30/12/96, **“The Taj is threatened with deterioration and damage not only by the traditional causes of decay but also by the changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage and destruction.”**

Originating as a result of the Writ Petition No. 13381/84-M.C.Mehta V/s the Union of India & Others, the Taj Protection Mission refers to a group of projects intended to check the deterioration of the Taj Mahal on account of the environmental pollution. The Central Pollution Control Board delineated the Taj Trapezium Zone (TTZ) in 1983, the basis of the weighted mean wind speed in twelve directions from Agra to Mathura and Bharatpur. The boundaries of the zone were made keeping in mind the effect of any pollution source in this zone on the critical receptor- The Taj Mahal. This area was declared as an “Air Pollution Protection Area.”

The Taj Trapezium Zone (TTZ), which is in the form of a trapezium, is bounded between 26045’N & 77015’ E to 27045’N & 77015’E in the west of Taj Mahal and in the East of Taj Mahal between 27000’N & 78030’E to 27030’N & 78030’E. The TTZ is spread over 6 Districts:

1. Agra: State of Uttar Pradesh
2. Mathura: State of Uttar Pradesh
3. Firozabad: State of Uttar Pradesh
4. Hathras: State of Uttar Pradesh
5. Etah: State of Uttar Pradesh
6. Bharatpur: State of Rajasthan



## **Regional Issues**

The TTZ lies in the semi-arid biogeographic zone and has a steady rise in resident and tourist's population. As per Census 2011, the area has a population of 1 crore with 32% in urban areas. The gross density is 965 persons per sq. km. which is higher than the State/District average. Due to this, there would be continuous pressure on the resources - land, air, water, and biotic resources. As detailed in Part A, the groundwater is depleting. Most of the urban areas show high dust concentration and the forests cover is less than 10%. Any development trajectory would have to address the above aspects

## **Urban Planning Issues**

In the last couple of decades, the TTZ has witnessed a major transformation in terms of growth and development. While urbanization has seen a rapid rise, the region has faced many developmental issues and challenges. Most of the cities in the region are a result of planned and unregulated urban growth that has led to tremendous infrastructural pressure within the core cities of the region. Non-conforming uses, the substantial dearth of recreational and open spaces, encroachment, congestion, and squatter developments have emerged as major challenges.

- a. Unregulated urban growth and development in the core areas
- b. Violation of land-use codes and unauthorized non-conforming uses
- c. Degenerative impact of urbanization on the river

## **Development along Yamuna Expressway**

There is a need to understand the implications of the type of industries that are being approved in various developmental proposals. Land use plans being approved for industrial development along expressways are a matter of great concern. Proposals such as the leather park, in the outer expressway master plan along the Agra Ring Road, should be thoroughly reviewed to assess whether it conforms with the mandates of the TTZ industry guidelines. Also, new non-conforming industries, burgeoning along the expressways need to be assessed and monitored.

- a. Unregulated Development along Yamuna Expressway
- b. Non-Conforming Industries Escalating Along Expressways
- c. Critical Industries along Expressway

## **Issues in Tourism**

### **• Monocentric Tourism**

TTZ has huge potential for developing into a significantly large tourist hub. However, currently, the entire focus of tourism in the region is focused on a counted few prime destinations. This increases the pressure on the few centers particularly because they also form the core central part of the cities as is clearly evident for Agra Mathura and Vrindavan, Bharatpur. There are various heritage significant locations like Gokul, Deeg, Nandgaon, and Chhatta in the TTZ that are unexplored and untouched but have great potential for developing into significant tourist destinations thus reducing the pressure off from the destinations which are bearing the brunt of over-crowding and crashing under the pressure. Also, culture tourism has great potential in the region which has been not been explored to its full potential. Tourism development strategies need to tap and promote the tangible and intangible cultural heritage of lesser-known destinations.

- **Insufficient Tourism Infrastructure**

The tourism infrastructure of primary tourist destinations in the region like Taj Mahal, Agra Fort, Fatehpur Sikri, Mathura, Vrindavan, and Bharatpur is not adequate to serve the growing influx of tourists. "Tourism infrastructure is a range of devices and institutions constituting a material and organizational basis for tourism development. It comprises four basic elements: accommodation facilities, food and beverage facilities, accompanying facilities and communication facilities".<sup>30</sup> Also, potential tourist attractions which are unexplored and unprotected in Deeg, Nandgaon, and Chhata lack the required tourist infrastructure to become potential tourist magnets. An increasing number of tourists and pilgrims (five to seven million annually) add stress to the carrying capacity of the parent city and the tourist sites. But prior to developing the tourist infrastructure, the infrastructure used by the residing population must be catered to. If a city cannot sustain its inhabitants, it will fail to sustain its visitors.

- **Inefficient maintenance of tourism significant sites**

The temple and river ghats are not regularly cleaned or maintained. Narrow entrances gates to the premises of Kunds are not well guarded leading to commotion and accidents.

- **Destruction of the regional landscape and associated elements of Braj Region**

The river as a primary element in the landscape is one of the most important images of this region but urbanization pressure and nature of urbanization have reduced the river to a mere drain with little or no water and thus it represents a very gloomy picture. At the same time, lack of any attention to unique riverfronts of Mathura, Vrindavan, and Agra is evident. Absence of a qualitatively significant and vibrant also leads to the dilution of cultural, religious and social activities associated with the river. Braj Region is characterized by not only architectural and urban elements, but in fact, the regional landscape and its constituting elements-Orchards and Forest (Van, Upvan, Bagichi, and Baghs), kunds, mounds, etc. have shaped the cities in the past and given them a specific and distinct character. These elements are under serious threat as their inter-relationships are either broken or diluted in newer development patterns. This unique regional landscape of Braj or numerous archeological sites finds no suitable recommendation or policy directions in the Master Plans (Refer Annexure 6.1). Even the restoration work undertaken at few selected kunds near Mathura is very piece-meal, project-oriented and confined to aesthetic treatments without giving due consideration to the local historical and ecological relationships of the kunds. Another important cultural aspect of this region is the 'Yatras', that follows sacred routes of Braj. These are again not respected in the development plans and with the destruction of regional landscape features- kunds, vans, etc, the significance and experience of the yatra are getting diluted.

### **Recommendations:**

1. GIS-based comprehensive database needs to be prepared through documentation, mapping and detailed Inventorisation of all the water and vegetal heritage resources like water reservoirs, kunds, water channels, streams (seasonal /perennial), ghats, kunds, baghs, bagichis, vans or forest
2. Provide statutory protection to all the water and vegetal heritage resources listed in the database 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.
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)
5. The 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 the 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.
6. 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.
7. 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
8. 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.
9. GIS-based documentation and mapping of creative industries in the TTZ needs to be undertaken to develop a digital platform through mobile-based application enabling tourists to identify and visit the centers of craft production.
10. 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.
11. Introduce NPVs in heritage zones which would also provide employment opportunities for e-rickshaw drivers.
12. An Urban Heritage cell for the 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.

## 10.6 Summary

Various studies have been attempted in the Braj region, being one of the main tourist attractions in Uttar Pradesh. We studied these documents, literature and other related existing policy frameworks, in order to develop an understanding of the region. The major report studied were; Tourism master plan, Braj region by IL & FS with Braj foundation, this report talk about the tourism potential of the region along with highlighting the important tourist places. Another report referred was under the pro poor tourism development of the Braj region. Uttar Pradesh Govt. initiated this project under the funding of WHO to improve the tourism in Braj, for which Environmental Impact Assessment Report of the project around Bankey Bihari temple was considered. Along with this report, State tourism policy was also reviewed. As Braj falls under Taj Trapezium Zone (TTZ). TTZ report prepared by SPA Delhi was an important document which provided guidelines laid by Hon' Supreme court of India, on

how to proceed with further development in the zone. All the information available from these studies, research documents, and existing policy framework has been extracted and reviewed along with the census of India statistics. In further stages now, we would collect the information on ground from Primary surveys, for which the basic understanding about the region was necessary.

## **11 DEVELOPMENT APPROACH & WAY FORWARD**

### **11.1 PROJECT SO FAR**

A preliminary study is being conducted for the study area, through secondary sources. A team has been identified and the work in filed will began.

### **11.2 NEXT AGENDA**

A stakeholder meeting will be conducted with the concerned nodal officer of the project along with other concerned officers of the region. Procurement of Satellite Image would be a major step in term of creating the base of the project. Simultaneously, data collection from the authority will be another important activity, in order to move forward in the formation of the database for the consultant. Also, a review of existing sectoral policies, strategies and plans on regional economic development, industrial policy, tourism and heritage conservation, PPP framework, protection of environmental resources, will be conducted to develop a better understanding of the region.

#### **11.2.1 Procurement of Satellite Image:**

The consultant will procure the stereo image of high-resolution satellite data of spatial resolution of 2.5 M (Pan and Multispectral Imagery) from NRSC Hyderabad. Uttar Pradesh BrajTeerth Vikas Parishad will assist by issuing a letter to concerned Authorities for quick procurement of Satellite Imagery with following Attributes:

- Resolution: 2.5 Meter Resolution
- Area: Present Spread of Braj Region
- Coverage: Authority's Development Area with sufficient buffer.
- Data: Digital and Hard Copy Images Products

This acquired imagery will be used for the Preparation of Base map. This raw satellite Imagery will be then Georeferenced using Ground Control Points (GCP) collected through the Differential Global Positioning System (DGPS) Survey.



## 11.2.2 Secondary Data Collection from various Departments

Data collection plays a vital role in understanding the existing status of the region. In order to develop a comprehensive development plan at this scale, data from various department needs to be integrated and involvement from different departments will be required to maintain the legitimacy of the project. A list of various departments is shared shown as below, in order to collect the relevant data of the respective region:

### 1. Uttar Pradesh Braj Teeth Vikas Parishad

- Collecting data for Future planning of the region

### 2. District Administration Mathura

- Administrative structure – hierarchy
- Administrative development strategies – governance

#### Legal Cell

- Functions of the Cell
- Registered cases against unauthorized construction activities, encroachments, etc.
- Details of PIL's filed against the activities performed by the Municipal Corporation
- Other significant disputes

### 3. Office of Deputy Director of Agriculture, Nalwa Path, Cantonment, Civil Lines, Mathura

- Type of agricultural development in the recent decade – Agricultural land – crops - production
- Available schemes related to agricultural development
- Maps – Agricultural land location – crop types
- Major issues/problems
- Details of Proposals already in a picture or prepared by department to address in the development plan

### 4. DIOS/ ADIOS: Education Department

- Development carried out in recent decade for elementary education – system – teaching staff – no. of schools
- Available schemes related to elementary education
- Maps – location of schools – facilities

### 5. CMO office, Civil Lines, Mathura

- Development carried out in recent decade for health & family welfare – health care system, health facilities
- Available schemes related to health & family welfare
- Major issues/problems
- Details of Proposals already in a picture or prepared by department to address in the development plan

### 6. Uttar Pradesh Tourism Department, Civil Lines, Mathura Cantonment, Mathura

- Tourism spots under the department or developed by the department and their details
- Details of development in the last decade
- Tourist footfall- National/ International
- Details of Proposals already in a picture or prepared by department to address in the development plan
- Available maps – tourism properties/locations – tourist footfall

**7. Revenue Department; Mathura, Vrindavan, Chhata, Mahavan, Sadar, Goverdhan, Mant Tehsils**

- Revenue sheets, revenue blocks
- location & area of Govt. lands
- Location & area of reserve plots for Public & semipublic purpose
- Availability of Revenue Maps Soft / Hard Copies – Geo-referenced or not

**8. Uttar Pradesh State Industrial Development Authority**

- Industrial policies
- Detail of existing industrial clusters and industrial estate/zone
- Detail about MOU (memorandum of understanding), LOI (letter of intent), LOP (letter of permission), IEM (industrial entrepreneur's memorandum)
- Details of Proposals already in picture or already prepared by the department to address in the development plan
- Status of existing industries – types
- Water consumption, waste generation, and disposal
- Maps - location – industrial areas – types

**9. Uttar Pradesh State Road Transport Corporation**

- Public transport details: terminals, routes of state transport buses and local buses
- Number and location of bus stops and terminals
- Routes for public transport circulation
- Details of Proposals already in a picture or prepared by department to address in the development plan
- Map showing the location of bus stands/ parking facilities

**10. RTO, Mathura district, 82, Panchvati Colony, Narsipuram Colony, Mathura**

- Popular modes of transport - distribution
- Registered vehicles details –Public/Private
- The trend of dependency on private vehicles
- Public transport details: terminals, routes of state transport buses and local buses
- Number and location of bus stops and terminals
- Number of passengers being carried by the buses and terminals on a daily basis
- Location of heavy traffic zones and Major accidental spots
- Map showing the routes of public transport services, major traffic junctions and roads, bus-stops, signalized and non-signalized junctions, and transport terminals.
- Details of dedicated on-street and off-street parking facilities – Location, Capacity and type
- Map showing the location of parking facilities
- Details of Proposals already in a picture or prepared by department to address in the development plan

**11. Labour & employment department, Mathura**

- Employment structure
- Major Activity for employment generation
- Employment data of last 3 decade

**12. Forest Department, Cantonment, Civil Lines, Mathura**

- Forest & reserve forest areas – Number, Location, area and type
- Available maps – location of forest areas
- Notified forest area boundary
- List of activities prohibited/restricted in forest areas as per the zoning regulations
- The extent of encroachment and destruction of protected forests
- Steps being taken to regulate unauthorized construction activities in these areas

### **13. Mathura Vrindavan Development Authority, Mathura**

- Master Planning
- Development carried out in recent decade by department
- Major issues / problems / bottlenecks in implementation
- Development changes
- Details on Slums/urban poor – housing – infrastructure facilities
- Available maps – changes in the development – land use, roads, infrastructure, Housing
- Details of Proposals already in a picture or prepared by department to address in the development plan
- Architecture & Planning –
  - Functions of the Department
  - Plans and Policies in action
  - Status of Compliance with the existing plans and policies
  - The extent of unauthorized construction activities in the region
  - Actions were taken to regulate these activities
  - The procedure of Building Plan approvals and extent of monitoring of those approved
- Legal Cell
  - Functions of the Cell
  - Registered cases against unauthorized construction activities, encroachments, etc.
  - Details of PIL's filed against the activities performed by the Municipal Corporation
  - Other significant disputes
- Road & Building Department
  - Functions of the department
  - Total Length of Roads in Braj Planning Area
  - Hierarchy of Roads in Braj Planning Area
  - Total Length of Road side drains and network of the same
  - Maps showing the hierarchy of roads and network of drains
  - Number of Off-Street Car parking facilities in the Braj Planning Area along with the total and individual capacities
  - Number of Community halls, shops and other buildings constructed by the Corporation
  - Map showing the overall condition of buildings in the region
  - Maps showing the location of parking facilities and Community Halls
  - The extent of coverage of street lights in the Braj Planning area
  - Type of street lights provided
  - Map showing roads provided with street lights and those unserved
  - The total length of footpaths in Braj Planning Area
  - Map showing roads provided with footpaths
  - Other Street Infrastructure provided by the corporation and a map showing the extent of those
  - Details of the Repair and maintenance activities of Roads, drains, street lights and footpaths.

### **14. Municipal Corporation, Mathura & Vrindavan Nagar Nigam**

- E-Governance Cell –
  - Functions of the Cell
  - Existing digital initiatives/practices (Ex: Tax Collection, Grievance Redressal, etc.)
  - Proposed Initiatives
- Accounts –
  - Functions of the Cell
  - Municipal Budget

- Details of Capital and Revenue Receipts & Expenditures
- Tax
  - Functions of the department
  - Existing Tax Collection Bye-laws and PROPERTY Taxation Method in action
  - Types and amount of tax collected
  - The extent of tax collected as opposed to the population/number of households
- Administrative Department
  - Functions of the department
  - Total Administrative Capacity and that of each department
  - Existing bye-laws, plans, policies, central/state government schemes in action
  - The extent of compliance and status of implementation of each
  - Other Municipal activities
- Estate
  - Functions of the branch
  - List of properties owned, rented and managed by the Municipal Corporation
  - Provisions made for migratory labor
  - Other activities regulated and managed by the corporation (Ex: Hawking)
- Legal Cell
  - Functions of the Cell
  - Registered cases against unauthorized construction activities, encroachments, etc.
  - Details of PIL's filed against the activities performed by the Municipal Corporation
  - Other significant disputes

## **15. Jal Nigam, Office Adhisasi Aviyantaa Khand UP Jal Nigam, NH2-Bhuteshwar Road**

- Functions of the Department
- Water Supply –
  - Sources of water and the total quantity of water collected from those
  - Number of Intake wells/pumping stations with their locations
  - The total cost of collecting water from the sources
  - Number of Reservoirs / Storage Tanks and their locations
  - Water Treatment Facility – Capacity, Cost of Treatment and location of the plant
  - Details of the Distribution Network – The length, Coverage, and diameter of Water Supply Mains, Feeders and Distribution Lines
  - Map showing the Water Supply Distribution Network
  - Total Piped Water Connections – Residential, Commercial, institutional and Industrial
  - Total Demand of Water
  - Water Supply charges levied on consumers – Residential, commercial, Institutional and Industrial
  - Bill Collection efficiency
  - Bill Collection frequency
  - Amount of subsidy available to the consumer
  - Amount of population being served by the network
  - Population dependent of Water tanks, bottled water, and other sources
  - Proposals for extension or appropriation of the Water Supply Network
  - Details of consumer complaints and grievances received
- Sewerage –
  - Total Sewage Generation
  - Details of the Sewage System– Length, Coverage, and diameter of sewage lines

- Total Population and households being served by the sewage connection
- Cost of establishing and maintaining the system
- Sewage collection charges levied on the customers – Residential, Commercial, institutional and Industrial
- Bill Collection efficiency
- Bill Collection frequency
- Amount of Subsidy available to the customer
- Population and households dependent of septic tanks for sewage disposal
- Map showing the Sewage Network
- Sewage Treatment Facility – Capacity, Cost of Treatment and location of the plant
- Sewage disposal site and the quality of sewage disposed
- Amount of sewage treated and then disposed
- Details of Customer complaints and grievances received
- Solid Waste Management –
  - Total Solid Waste Generation – Residential, Commercial, Institutional and Industrial
  - Waste Segregation practices at the source
  - Waste Collection – Residential, Commercial, Institutional and Industrial
  - Collection of Medical, Hazardous and Construction Waste
  - Number of Community bins and their collection frequency
  - Number and location of public bins and their collection frequency
  - Total Cost and Responsibility of Collection
  - Waste Transportation – Frequency, Vehicles used and transportation network
  - Total Cost and Responsibility of Transportation
  - Waste Treatment and Processing unit – Location, Type and amount of waste treated
  - Total Cost and Responsibility of Treatment
  - Waste Disposal – Location, type, area of the landfill site and amount of waste disposed
  - Waste Collection charges levied on the customer
  - Bill Collection efficiency
  - Bill Collection frequency
  - Total Cost of Disposal and Maintenance of Landfill Site
  - Map showing the location of community bins, public bins, transportation network and location of the landfill site.
  - Details of Consumer Complaints and Grievances received

## **16. Rural & Panchayati Raj Department, Rajiv Bhawan, Civil Lines, Mathura Cantonment**

- Central / State sponsored schemes being implemented in the villages of the planning area
- Number of people benefitted from these schemes/programs so far
- Agency responsible for implementation and monitoring of Rural development Schemes / Programmes
- Existing Rural Infrastructure provision:
  - Number of households with individual toilets
  - Number of community / public toilets, if any
  - Source of water in the village
  - Households distribution based on dependency on individual taps, tankers, bore wells, tube wells, water bodies or bottled water
  - Employment pattern in the village
  - Solid waste disposal site in the village
  - Number of health and education facilities, if any
  - Number of electrified households



- Number of events of power cut in a week
- User charges paid for services if any
- Quality of roads and those with street lights

**17. Executive Engineer, PWD, Mathura**

- Roads: Road capacity (Design), the width of road, villages and settlement connectivity, construction of new roads. New road proposal and types and settlement connectivity.
- Traffic: Volume, types and flows, problems accidents and hazards.

**18. Executive Engineer, Jal Nigam, Mathura**

- Number of Water Intake Sources
- Total Water Collected from the sources
- Total Cost of Water Collection System
- The amount levied for bulk water supply to the Municipal Corporation

**19. Superintendent engineer, Uttar Pradesh Dakshinanchal Vidyut Vitrand Nigam Ltd. (DVVNL)**

- Number of households, building units electrified currently
- Total Supply and Demand of Electricity
- Number and location of electric sub-stations and transformers in the region
- Location of main power stations
- Number of events of power cut in a week
- Map showing location of the power station, sub-stations and transformers
- Electricity tariffs levied on the consumers – Unit Rate
- Bill Collection efficiency
- Bill Collection frequency

**20. NH Authority Faridabad**

- The existing condition of NH
- Road safety
- Infrastructure
- Available maps – road network – road width

**Reports to be collected:**

- Interim MVDA Master Plan 2021 for Mathura Vrindavan Development Authority Planning Area.
- Studies were undertaken in respect of housing, parks & open spaces, etc. under JNNURM.
- Studies were undertaken in respect to SMART city.
- Studies were undertaken in respect of housing, parks & open spaces, etc. under PMAY.
- Studies were undertaken in respect of Tourism under Pro poor tourism development project.

**Maps to be collected:**

- Revenue Village Boundaries Map.
- Existing Master Plan of Mathura Vrindavan Development Authority.
- Map showing location and type of educational facilities
- Map showing the location of industrial activity clusters/zones
- Map showing major tourist destinations in the planning area
- Map showing the routes of public transport services, major traffic junctions and roads, bus-stops, signalized and non-signalized junctions, and transport terminals.
- Map showing the location and type of parking facilities
- Map showing location of slums and other types of housing
- Map showing Ownership of land and plots reserved for the public / semi-public purpose
- Location and type of forests in the planning area

- Road Network and Hierarchy
- Network of drains
- Building conditions in the planning area
- Location and type of public/semi-public spaces provided by the corporation
- Roads with footpaths and street lights
- Water Supply Distribution Network with the location of Storage tanks, Reservoirs, and Treatment Plant
- Sewage Network with the location of Sewage Treatment Plant and Disposal points
- Location and type of health facilities
- Location of Community bins, public bins and Landfill site
- Location of public toilets
- Location of power stations, sub-stations, and transformers

### **11.2.3 Primary Surveys- Methodology Finalization & questionnaires**

The purpose of conducting a primary survey is to develop a database with ground truthing. This task shall comprise Household Surveys, Traffic Surveys, DGPS Surveys, Socio-Economic Surveys, and Tourism Surveys. The team will prepare detailed survey sheets and represent it to the authority for approval and necessary suggestions hereafter.