

**SUSTAINABLE AND HERITAGE INCLUSIVE
DEVELOPMENT IN PILGRIMAGE CITIES OF INDIA**

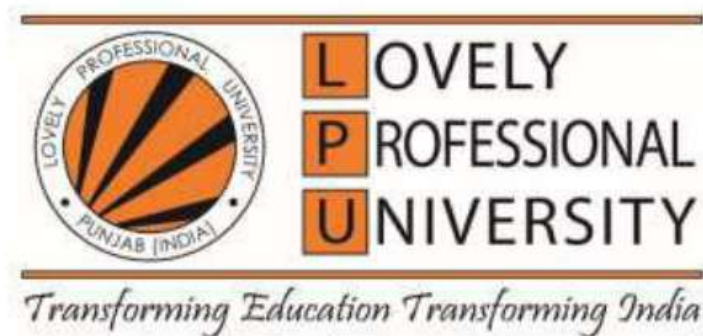
Thesis Submitted for the Award of the Degree of

DOCTOR OF PHILOSOPHY

**in
Architecture**

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**LOVELY PROFESSIONAL UNIVERSITY,
PUNJAB, 2025**

DECLARATION

I, hereby declared that the presented work in the thesis entitled “Sustainable and Heritage Inclusive Development In Pilgrimage Cities Of India” in fulfilment of degree of **Doctor of Philosophy (Ph. D.)** is outcome of research work carried out by me under the supervision of Dr. Atul Kumar Singla, working as Senior Dean, in the Architecture Department of Lovely Professional University, Punjab, India. In keeping with general practice of reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of other investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.



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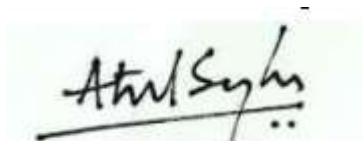
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CERTIFICATE

This is to certify that the work reported in the Ph. D. thesis entitled “Sustainable and Heritage Inclusive Development In Pilgrimage Cities Of India” submitted in fulfilment of the requirement for the reward of degree of **Doctor of Philosophy (Ph.D.)** in the Lovely School of Architecture and Design, is a research work carried out by Naumi Garg, 42100125, is bonafide record of her original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.

A handwritten signature in black ink, reading "Atul Singla", with a horizontal line underneath the name.

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Name of supervisor: Dr. Atul Kumar Singla

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ABSTRACT

Our country is known for its rich cultural and heritage identity worldwide for many decades now which is at the verge of destruction. India is blessed to have various sacred sites spread all over the country. In recent decades, technology and globalization has taken the front foot in development process and lagged to balance with the given heritage. Over the years, improvements in poverty alleviation, agricultural productivity, disease eradication, mass education, industrial activity, innovation, and urbanisation are all indicators of India's success. The goal of the ambitious SDG 11 agenda is to build more sustainable, inclusive, and resilient cities. To promote the sustainable, heritage-inclusive, and holistic future development and transformation of pilgrimage cities in India, which are currently imperilled by urbanisation and an increased influx of tourists, into well-planned sacred cities. Numerous historical, cultural, and other heritage assets that are underappreciated and in bad condition may be found throughout Indian cities. Natural, material, intangible, and cultural components are all part of heritage, which is an asset passed down from previous generations.

It is deeply rooted in the context of Indian Pilgrimage cities where there is a coexistence of sacred and profane, the research probes into the complexities of sustainable development of pilgrimage cities to preserve the historic and cultural heritage addressing urban development issues. The intent of this study is to evaluate the sustainability and heritage-inclusive development of prominent Indian pilgrimage cities—VARANASI, MATHURA VRINDAVAN, DWARKA, PURI, and MADURAI—through secondary and primary research, case studies, observations, and questionnaires. The study will also provide the most appropriate recommendations for the policy framework in accordance with the methodology provided.

The government has adopted the SDGs as a framework for directing development initiatives at the national and subnational levels. The study envisions the linkage of the rapid urbanization of pilgrimage cities under the schemes by GOI – HRIDAY, PRASHAD, AMRUT, AND SMART CITY MISSION in India with the Sustainable & Heritage inclusive development of sacred pilgrimage towns in India. Government initiatives that are strongly linked to the SDG objectives and facilitate quicker progress towards achieving the Global Goals on time include HRIDAY, AMRUT, SCM and PRASHAD to name just a few. Data, surveys, interviews, reports qualitative, and

descriptive analysis of policies and cities suggests a broad image of the present scenario of the pilgrimage sites and heritage structures. The suggestions from residents and tourists include projects pertaining to employment, services, crowd management, corruption monitoring, development, giving preference to locals, controlling tourists, and promoting local engagement and involvement. Additionally, a lot of issues faced by visitors and locals came to light after the research which are mentioned in survey results and analysis. Corresponding recommendations with few references are provided for the issues raised. Together, the creation of jobs in the tourist industry will resolve many problems. In our time frame, it is imperative that we respect the past, look for answers in the present, and set goals for the future. Prioritising sustainable tourism practices is crucial for ensuring ethical tourist management and reinvesting financial returns into cultural preservation efforts. It aims to create an integrated strategy that judiciously reconciles the demands of contemporary development with the safeguarding of cultural identity is essential for the establishment of a sustainable historic city framework. Afterall an integrated and well executed approach will only resolve these issues and maintain a healthy environment for the heritage cities and its users.

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LIST OF FIGURES

Figures		Page No.
Figure 1.1	Methodology chart	09
Figure 2.1	Dwarka city HRIDAY zones	24
Figure 2.2	Varanasi HRIDAY works	24
Figure 2.3	PRASAD proposal at Mathura Vrindavan	25
Figure 2.4	Dwarka works under PRASAD source:(Kapadia, 2008)	25
Figure 2.5	Transport Development Works under AMRUT (125-Amrut @ Udd.Uk.Gov.In, 2023)	26
Figure 2.6	Parks in Mathura Vrindavan	26
Figure 2.7	SCM development factors	27
Figure 2.8	Kashi Vishwanath	27
Figure 2.9	Funding of Madurai AMRUT scheme (Ahmedabad Municipal Corporation, 2016)	28
Figure 2.10	Madurai MC 2018-19 Budget	28
Figure 2.11	Hriday Organisation Structure in Mathura (Mathura HRIDAY Works @ Www.Dpc.Co.In, 2023) Vrindavan, Dwarka and Varanasi	28
Figure 2.12	Varanasi SCM	28
Figure 2.13	Madurai SCM Scheme Funding (Bobek et al., 2021)	31
Figure 2.14	AMRUT funds breakdown in Madurai	31
Figure 2.15	HRIDAY Funding Structure	32
Figure 2.16	HRIDAY Funding Breakdown	32
Figure 2.17	SCM Funds in Varanasi (Moik et al., 2021)	33
Figure 2.18	HRIDAY Funds in Crore for Dwarka (Centre, 2016)	33
Figure 3.1	St. Peter's Basilica (16th To 18th Century) (UNESCO WHC, 2024)	39
Figure 3.2	City Tourist Heritage Sites (Barbara Radcliffe Rogers, 2023)	39

Figure 3.3	Map Location of City	40
Figure 3.4	City's Major Mosque (Maisah, 2024)	40
Figure 3.5	Location map	41
Figure 3.6	Gateway project infrastructure	41
Figure 3.7	City location in Indian map Source: author	43
Figure 3.8	Cities selected under SCM	43
Figure 3.9	Amrut Cities	43
Figure 3.10	Budget table	43
Figure 3.11	Location map	45
Figure 3.12	HRIDAY interventions	47
Figure 3.13	City HRIDAY Zones	47
Figure 3.14	Kashi-Vishwanath development area	49
Figure 3.15	Location map of Puri, Odissa	49
Figure 3.16	Jagannath Temple, Puri	50
Figure 3.17	Selected Zones Under HRIDAY for Development	50
Figure 3.18	Narendra tank	50
Figure 3.19	Indrayumna Tank	51
Figure 3.20	Bankimuhana sea beach	51
Figure 3.21	Bada Danda street	51
Figure 3.22	River Musa	51
Figure 3.23	Tourist centre, source: author	51
Figure 3.24	Srigundicha temple images, source: author	51
Figure 3.25	Location map (google maps)	52
Figure 3.26	Scheme Interventions	53
Figure 3.27	SCM interventions	53
Figure 3.28	Interventions (Ahmedabad Municipal Corporation, 2016)	53
Figure 3.29	Mathura Vrindavan location map	53
Figure 3.30	Area prioritization, zones selected for development source: (Mathura HRIDAY Works @ Wwww.Dpc.Co.In, 2023)	56

Figure 3.31	Krishna Janmabhoomi precinct source: author	56
Figure 3.32	Zone 1-Krishna Janmbhooi interventions	56
Figure 3.33	Zone 2-Existing Chatta bazaar area	56
Figure 3.34	Zone 3-existing condition at Vishram ghat	58
Figure 3.35	Zone 4-Shivtal kund existing condition	58
Figure 3.36	Zone 5- Selected chowks for development	58
Figure 3.37	Zone 6-Vrindavan Parikrama Marg	58
Figure 3.38	Garbage dump at heritage site	58
Figure 3.39	Development of multi-level car parking at site	58
Figure 3.40	Kashi Vishwanath Corridor	58
Figure 3.41	Chandrodaya Temple	59
Figure 4.1	Dwarka city HRIDAY zones	61
Figure 4.2	Varanasi HRIDAY works	61
Figure 4.3	PRASAD proposal at Mathura Vrindavan	65
Figure 4.4	Dwarka works under PRASAD source:(Kapadia, 2008)	65
Figure 4.5	Transport Development Works under AMRUT (125-Amrut @ Udd.Uk.Gov.In, 2023)	65
Figure 4.6	Parks in Mathura Vrindavan	65
Figure 4.7	SCM development factors	65
Figure 4.8	Kashi Vishwanath	65
Figure 4.9	Funding of Madurai AMRUT scheme (Ahmedabad Municipal Corporation, 2016)	65
Figure 4.10	Madurai MC 2018-19 Budget	66
Figure 4.11	Hriday Organisation Structure in Mathura (Mathura HRIDAY Works @ Wwww.Dpc.Co.In, 2023) Vrindavan, Dwarka and Varanasi	66
Figure 4.12	Varanasi SCM	66
Figure 4.13	Madurai SCM Scheme Funding (Bobek et al., 2021)	66
Figure 4.14	AMRUT funds breakdown in Madurai	66

Figure 4.15	HRIDAY Funding Structure	66
Figure 4.16	HRIDAY Funding Breakdown	66
Figure 4.17	SCM Funds in Varanasi (Moik et al., 2021)	66
Figure 4.18	HRIDAY Funds in Crore for Dwarka (Centre, 2016)	67
Figure 4.19	Promotion of local heritage	67
Figure 4.20	GIS mapping, heritage-management plan revitalizing service	67
Figure 4.21	Infrastructure revitalizing the heritage city	67
Figure 4.22	IEC, CCTV cameras, digital display, signage, services	67
Figure 4.23	Reforms for protection of heritage ghats religious temple areas, kunds	67
Figure 4.24	Clean, sustainable environment and open spaces quality	67
Figure 4.25	Smart solutions	67
Figure 4.26	Governance, participation, security and education	67
Figure 4.27	Area based development	67
Figure 4.28	Weight mean for Infrastructure revitalizing the heritage city	68
Figure 4.29	Weight mean for GIS mapping	68
Figure 4.30	Weight mean for IEC, CCTV cameras, digital display	68
Figure 4.31	Heritage protection	68
Figure 4.32	Sustainable transport system	68
Figure 4.33	Promotion of local heritage	68
Figure 4.34	Clean open spaces	70
Figure 4.35	Smart solutions	73
Figure 4.36	Governance, participation, security and education	73
Figure 4.37	ABD	75
Figure 4.38	Scree plot graph	75
Figure 4.39	Infrastructure revitalize heritage city	75
Figure 4.40	GIS mapping	75
Figure 4.41	IES, CCTV	75
Figure 4.42	Reforms for protection of Heritage ghats	76

Figure 4.43	TOD	76
Figure 4.44	Local heritage	76
Figure 4.45	Clean open spaces	76
Figure 4.46	Smart solutions	77
Figure 4.47	E-governance	77
Figure 4.48	Area based development	77
Figure 4.49	Scheme awareness	77
Figure 4.50	Scheme impact in heritage sites in Mathura-Vrindavan	77
Figure 4.51	Availability of services and prevention to water logging	78
Figure 4.52	Tourist influx	78
Figure 4.53	Economic conditions	78
Figure 4.54	Increase in Pollution levels	78
Figure 4.55	Involvement in schemes	78
Figure 4.56	Religious and cultural considerations	78
Figure 4.57	Smart solutions	78
Figure 4.58	Amenities and services	78
Figure 4.59	Restoration works	83
Figure 4.60	Road conditions	83
Figure 4.61	Local skill promotion	83
Figure 4.62	People willing to adapt to the future	83
Figure 4.63	Threat of development among people	84
Figure 4.64	Scheme benefits	84
Figure 4.65	TOD development	84
Figure 4.66	Issues in public	84
Figure 4.67	Public suggestions	84
Figure 4.68	Age differences among cities	84
Figure 4.69	Gender differences among cities	85
Figure 4.70	Issues and Problems	85
Figure 4.71	Awareness of schemes	85

Figure 4.72	Suggestions	85
Figure 4.73	Schemes impact	85
Figure 4.74	Service availability	85
Figure 4.75	Pollution	85
Figure 4.76	Tourist influx	85
Figure 4.77	Economy	85
Figure 4.78	Inclusiveness	86
Figure 4.79	Cultural aspect	86
Figure 4.80	Restoration works	86
Figure 4.81	Smart solutions	86
Figure 4.82	Infrastructure facilities	86
Figure 4.83	Road networks	86
Figure 4.84	Promotion of local arts	86
Figure 4.85	Housing schemes	86
Figure 4.86	Adaptiveness of people	86
Figure 4.87	TOD, traffic management	86
Figure 4.88	Sense of fear	89
Figure 4.89	Statistical chart	89
Figure 4.90	Frequency of visit, ii. Factors of significance, ii. Heritage inclusivity	89
Figure 4.91	Recommendation of Mathura-Vrindavan as tourist destination, ii. Factors contributing to heritage inclusivity, ii. Factors for sustainability and heritage inclusive development	90
Figure 4.92	Graph for scree plot	90
Figure 5.1	Mathura ghat showing redevelopment and riverfront development site proposal, source: (Author, 2024)	100
Figure 5.2	Reference image for proposal for Musa River side, source: Image Generated by AI	101
Figure 5.3	Reference for Submarine for Underwater Tours for Tourists for old Dwarka remains of the past, Source: (Yadav, 2023)	101

Figure 5.4	Vaigai River Side Development Proposal Reference (Source: AI generated)	101
Figure 5.5	Heritage Development Elements (Source: AI generated)	102
Figure 5.6	Biometric Tourist Registration/Help Desk (source: AI generated)	102
Figure 5.7	Poor Signage in Dwarka	102
Figure 5.8	Poor Awareness Among People of the heritage underwater due to poor resources	105
Figure 5.9	Large Scale Demolition of Local's Houses and unjustified compensation and poor rehab situation	105
Figure 5.10	Undefined Streets and Congestion in Tourist Routes of Varanasi	105
Figure 5.11	Waste Dump Near Heritage Tank in Puri	105
Figure 5.12	Pollution of Water and Degradation of Soil Quality	105
Figure 5.13	Water Body Degradation, Poor Progress of Schemes	106
Figure 5.14	South Bank of Vaigai River Is Full of Garbage	106
Figure 5.15	Poor Water Quality of Shiv Tal Kund	106
Figure 5.16	Misuse of Heritage Sites Inn Mathura	106

LIST OF TABLES

Tables		Page no.
Table 3.1	Cities selection and Schemes	38
Table 3.2	Issues, works done in Puri city	44
Table 3.3	Works done under the schemes	46
Table 3.4	Works done in Madurai	47
Table 4.1	UN SDG Global, Indian Targets and Indicators	56
Table 4.2	Fund Distribution of HRIDAY in Puri Town	64
Table 4.3	Weight-mean for various development parameters	65
Table 4.4	KMO and Bartlett's Test	66
Table 4.5	Communalities	66
Table 4.6	Rotated Component Matrix	67
Table 4.7	Total Variance Explained	67
Table 4.8	Statistical Measure of Response	68
Table 4.9	KMO and Bartlett's Test	76
Table 4.10	Total Variance Explained	77
Table 4.11	Communalities	78
Table 4.12	Weighted Mean Rank	83
Table 4.13	KMO and Bartlett's Test	83
Table 4.14	Total Variance Explained	85
Table 4.15	Communalities	85
Table 4.16	Ranks	88
Table 4.17	Comparative Analysis of City Surveys	90
Table 4.18	Fund analysis for the schemes among cities	94
Table 5.1	Site-based recommendations include:	104

Table of Contents		
Declaration		ii
Certificate		iii
Abstract		iv
Acknowledgement		v
List of figures		vi
List of tables		xii
Contents		Page
Chapter 1	INTRODUCTION	
1.1	Introduction	01
1.1	Context	02
1.2	Research Problem	04
1.3	Research Aim and Objectives	05
1.4	Research Questions	06
1.5	Research Gap	07
1.6	Methodology	07
1.7	Scope And Limitations	08
1.8	Structure Of Report	09
Chapter 2	LITERATURE REVIEW	
2.1	Introduction	11
2.2	National Schemes	13
2.3	United Nations Initiative for Sustainability and Heritage Development	15
2.4	Sustainable Development Goals-India	16
2.5	Selection Criteria, SDG 11-Sustainable Cities, And Communities	16
2.6	Inclusive Heritage-Based City Development Program	17
2.7	UN SDG TARGETS AND INDICATORS	18
2.7.1	UN SDG Targets and Indicators	18
2.7.2	HRIDAY in Sync with UN SDG 11 Targets and Indicators	20

2.7.3	PRASHAD in Sync with UN SDG 11 Targets and Indicators	22
2.7.4	AMRUT in Sync with UN SDG 11 Targets and Indicators	22
2.7.5	Smart City Mission in Sync with UN SDG 11 Targets and Indicators	23
2.7.6	City Wise Scheme Organization Structure	24
2.9	Funding For Central Schemes	26
2.9.1	Scheme Funding	26
2.7.9	Summary	31
Chapter 3	CASE STUDIES	
3.1	Introduction	33
3.2	International Pilgrimage Cities	34
3.3	Vatican, Italy	35
3.4	Mecca Madina	36
3.5	Jerusalem	37
3.6	Selection Criteria of Pilgrimage Cities	38
3.7	Indian Pilgrimage Cities	39
3.8	Dwarka	40
3.9	Banaras	41
3.10	Puri	43
3.11	Madurai	46
3.12	Pilot Case Study: Mathura Vrindavan	49
Chapter 4	ANALYSIS	
4.1	Progress In Mathura Vrindavan	54
4.2	Questionnaire Preparation Criteria	57
4.3	Survey Sample Size Calculations	57
4.4	Survey Results	59
4.5	Comparative Analysis	92
4.6	Inferences	95
Chapter 5	RECOMMENDATIONS, CONCLUSIONS AND	

	WAY FORWARD	
5.1	Recommendations	97
5.2	Conclusions	106
5.3	Way forward	107
REFERENCES		108
List of Appendices		112
Annexures I- 4.2	Questionnaire	113
Annexures II- 4.4	Survey response	130
PUBLICATIONS AND CONFERENCES/WORKSHOPS		139

CHAPTER 1. INTRODUCTION

1. INTRODUCTION

1.1. Context

Nations are speeding up the creation and execution of sustainable strategies for the world's largest problems, from poverty and gender inequality to the impact of climate change, with fewer than eight years remaining to fulfil the Global Goals. India is passing through the "Decade of Action" alongside the rest of the globe (NITI Aayog, 2020). Following the COVID-19 global pandemic and our attempts to set a new development trajectory for the post-pandemic future, India's commitment to the SDGs has only become stronger. India's progress is witnessed through improvements in poverty reduction, agricultural output, illness eradication, mass education, industrial activity, innovation, and urban growth. The ambitious SDG 11 agenda aim to create more resilient, inclusive, and sustainable cities (NITI Aayog, 2019). The independent urban objective has thrust urbanization to the fore of policy considerations. The study of religious cities and their historical sites enables us to think through the consequences of how such priceless cultural remnants are handled and frequently kept away to 'guard' them from environmental harm. 'Eventization of Faith' takes into account the effects of customary temple-led pilgrimages to significant religious sites. For instance, pilgrimages to the Holy Land may affect the local temple communities and devotees. Such challenges of religious cities can be resolved through the application of SDG 11, as it provides targets and indicators for transport systems, protection of natural and cultural heritage, social inclusiveness, etc. Pilgrimage is defined as "a journey resulting from religious causes, externally to a holy site, and internally for spiritual purposes and internal understanding" (Collins-Kreiner 2009, p. 153). A study by the Delhi based **National Council for Applied Economic Research (NCAER)** shows that of the 230 million tourist trips undertaken in India, the largest proportion is made up of religious pilgrimages. The increasing flux in pilgrimage tourism has resulted in the degradation of pilgrimage cities in India and abroad. To make the pilgrimage cities self-reliant and be able to withstand the pressure of the increased tourist influx governments of various countries have proposed many schemes and missions for their development and expansion. Under the SDG 11 localization, cases of five Indian religious cities are considered for the study of the

impact and progress of the SDGs implementation i.e., Mathura-Vrindavan, Madurai, Puri, Dwarka, and Varanasi. As a framework for guiding development actions at the national and sub-national levels, the government has accepted the SDGs. HRIDAY, AMRUT, and PRASHAD are merely a few examples of government policies that align closely to the SDG priorities and enable accelerated progress towards meeting the Global Goals on schedule. Historically, when attempts have been made to preserve ancient and cultural resources in Indian cities and towns, the needs and aspirations of the surrounding communities as well as the key issues relating to urban development, such as the economy, urban planning, livelihoods, service delivery, utility and infrastructure distribution in the area, have frequently been disregarded. The heritage development of a city involves the creation and preservation of a wide range of city development, including its planning, its fundamental services, and the quality of life for its residents, its economy and way of life, cleanliness, security, the revitalization of its soul, and the outward expression of its personality. (*Index @ Wwww.Hridayindia.In*, 2023) This will also make it possible to integrate seamlessly the contemporary idea of local economic growth using locally accessible information, resources, and skills. Under HRIDAY, several works are being conducted in all the cities mentioned while in Puri it could not be executed successfully. Atal Mission for Rejuvenation and Urban Transformation (AMRUT) is launched as an updated version of JNNURM. Some of the work fields of AMRUT are Water Supply, Sewerage, Storm Water Drainage, Urban Transport management motorized transport, green space /Parks, and Simplification of building by-laws. The methodology of working includes Central Monitoring systems for - Sewerage levels, Water meters, billing systems, and Water quality. Pollution Global System for Mobile. Smart Home energy network system. Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASAD): The scheme works on the following aspects: - Perspective - Culture, Cultural Heritage, and Inclusive Heritage Development, Sustainability, Social: -Environment, Economic, and Culture. Smart City Mission (SCM): The scheme considers 100 cities for overall development. It includes Housing and inclusiveness as drivers for development. The scheme works in conveyance with AMRUT, HRIDAY. SCM includes projects such as underwater supply, Sanitation, Waste management, urban mobility, Sustainable environment, Robust IT connectivity, and digitalization. Other schemes include the

Augmentation of Basic Amenities and Development of Heritage and Architecture (ABADHA) scheme for Puri City, a state scheme, to cultivate the Jagannath Temple of Puri into a world-famous heritage city (Launched in 2017). This research envisions the linkage of the rapid urbanization of pilgrimage cities under the schemes by GOI – HRIDAY, PRASAD, AMRUT, and SMART CITY MISSION in India with the Sustainable & Heritage inclusive development of sacred pilgrimage towns in India. Rooted in the context of Indian Pilgrimage cities where there is a coexistence of sacred and profane, the research probes into the complexities of sustainable development of pilgrimage cities to preserve the historic and cultural heritage addressing urban development issues. Having an emic view, the research questions the revitalization approaches of transformation of traditionally planned cities’ sustenance and heritage inclusiveness for the need and aspirations of the insiders of these cities.

SUSTAINABILITY	•United Nations Brundtland Commission defined Sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”–1987
HERITAGE INCLUSIVE	•According to the Oxford Learner’s dictionaries: Heritage refers to property that is or may be inherited, and the adjective inclusive refers to including a wide range of people, things, ideas, etc.
DEVELOPMENT	•Development refers to the process of developing or being developed.
PILGRIMAGE	•A Pilgrimage is a journey to a holy place for religious reasons. Spiritual importance is attached to the holy cities, commemorated with shrines or temples. Pilgrims visit them for spiritual benefits.
CITIES	•Cities are large and important towns.

Chart 1: Components of research

Source: author

1.2 RESEARCH PROBLEM

Over the years, various Government Schemes and policies have contributed to the development and preservation of the character of the pilgrimage cities, but as per the literature review, largely the activities conducted are excluding the aspirations of the communities, visitors, sustenance, local economy, conservation, urban planning, etc. The research questions the revitalization approaches of transformation of traditionally planned cities' sustenance and heritage inclusiveness for the need and aspirations of the insiders of these cities. GOI selected few holy heritage cities to strengthen and preserve their development in a sustainable way befitting the SDGs (cf. Kumar and Singh. 2017) including:

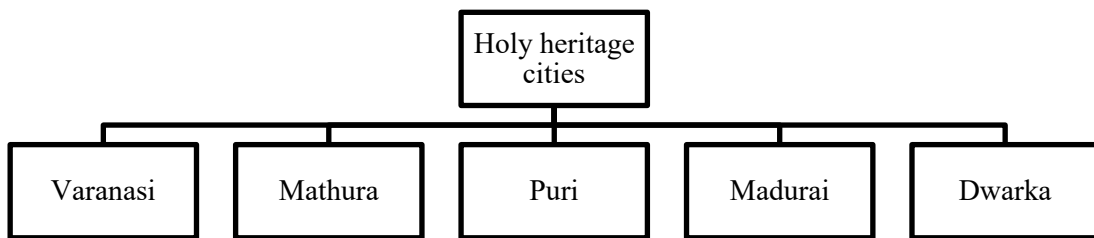


Chart 2: Holy heritage cities selected by the government

Source: author



JnNURM	HRIDAY	AMRUT	SMART CITY	PRASAD
(2005-2014)	(2015-2018)	(2015-2018)	MISSION (2015)	(2016-2020)

Although all the above schemes have contributed to the development and preservation of the character of the pilgrimage cities, as per the literature review, the activities conducted largely exclude the aspirations of the communities, sustenance, local economy, conservation, urban planning, etc.

1.3 RESEARCH AIM AND OBJECTIVES

1.3.1 Aim: To assess the efficacy of initiatives like HRIDAY, PRASAD, AMRUT, and SCM; investigate resident, officials and visitor experiences; fill in gaps in the preservation of vernacular tangible and intangible heritage; encourage community involvement; identify resilience indicators; analyse tourism-induced pressures and heritage economics; and assess governance challenges; in order to formulate a comprehensive strategy for the sustainable and heritage-inclusive transformation of India's pilgrimage cities.

1.3.2 Objectives

1.3.2.1 Objective 1: In light of SDG 11 targets, critically evaluate and contrast the main goals, elements, and heritage-development strategies of Government of India policies—HRIDAY, AMRUT, PRASHAD, and Smart City Mission—with an emphasis on their applicability and relevance to a few chosen Indian pilgrimage cities. This will be done by using secondary data, policy documents, and stakeholder surveys to find policy-level gaps, overlaps, and strengths.

1.3.2.2 Objective 2: Using fieldwork, case studies, and qualitative data, a heritage-inclusive sustainability assessment tool that aligns with SDGs 11.4, 11.3, and 11.b will be developed and applied in a few pilgrimage cities to assess the effectiveness of these policies' on-the-ground implementation. This tool will measure the integration of cultural heritage, community participation, infrastructure improvement, and resilience-building practices.

1.3.2.3 Objective 3: To support the long-term goal of converting these cities into resilient, inclusive, and culturally grounded urban systems under the SDG 11 framework, as well as to ensure alignment with sustainable and heritage-inclusive development goals, by developing evidence-based policy recommendations for betterment of the design and implementation of India's urban development schemes in pilgrimage cities.

1.4 RESEARCH QUESTIONS

1.4.1 RESEARCH QUESTION - 1

What are the various schemes and policies of GOI for the development of pilgrimage cities in India?

1.4.2 RESEARCH QUESTION - 2

What is the role of sustainability and heritage inclusiveness, in the present development in the pilgrimage cities of India based on primary research?

1.4.3 RESEARCH QUESTION – 3

Are the development works under the schemes HRIDAY, PRASHAD, AMRUT, and SMART CITY MISSION in the pilgrimage cities of India, sustainable and heritage inclusive?

1.4.4 RESEARCH QUESTION – 4

How can more sustainable and heritage inclusive development be holistically addressed, in the future growth in the pilgrimage cities of India?

1.5 RESEARCH GAP

The rapid urbanization of pilgrimage cities has left the cities in an ailing condition. The historic heritage structures, royal gardens, religious ponds/kunds, sacred streets or parikrama margs, natural landscapes, etc. are losing their potential, heritage and beauty due to the unscrupulous development of cities. This research is an attempt to understand and integrate all the development activities along with the selected national schemes by the Government of India for heritage and pilgrimage cities' upliftment. It investigates the ground challenges that are faced on the way of the government schemes and interventions. It also assesses the sustainability factor through SDG 11 targets and indicators and heritage inclusiveness of the selected schemes implemented in the cities. The study refers to several challenges on ground level which are focused, and corresponding recommendations are suggested. Given below are detailed gaps of the research-

- Absence of Frameworks for Integrated Heritage and Urban Sustainability
 - highlights the necessity of integrated frameworks that respect both urban expansion and cultural conservation in order to address the "holistic development" and "heritage-inclusive" components of the goal.
- Inadequate Assessment of Pilgrimage Cities' HRIDAY, PRASHAD, AMRUT, and SCM
 - Has a direct bearing on analyzing the government's present initiatives to "transform into well-planned cities" and determining whether or not these plans actually promote sustainable and heritage-sensitive results.
- Gap in Data-Driven Insights on Visitor and Resident Experiences
 - Helps achieve the goal by emphasizing how important it is to include visitor and community-based insights in the planning process to guarantee inclusive and responsive future development.
- Limited Study of Vernacular and Intangible Heritage Preservation
 - Focuses on the "heritage-inclusive" part of the goal by highlighting the importance of intangible and vernacular components in maintaining the cultural integrity of pilgrimage cities.
- Poor Local Community Integration in Policy Design and Implementation

Promotes participatory planning, which is essential to ensuring that the development is socially sustainable and acceptable locally, reinforcing the "holistic" and "inclusive" elements.
- Absence of Indicators for Holistic Pilgrimage City Resilience
 - relates to the objective of "sustainable transformation" by pointing out the need for new metrics that assess urban resilience and legacy in pilgrimage cities.
- Limited Attention to Pilgrimage-Induced Urban Pressure
 - By highlighting the need of comprehending and controlling pressure from seasonal and mass tourism, it directly supports the aim's reference to "threats from recent urbanization and a rise in tourists."

- Lack of Studies on Heritage Economics in Pilgrimage Towns
 - Complies with the "sustainable development" element by investigating the responsible and regenerative ways in which heritage can be used as an economic asset.
- Overlapping Jurisdictions and Fragmented Policy Implementation
 - Identifies governance inefficiencies and the need for more defined institutional responsibilities and cooperative planning models in order to achieve the "well-planned" aim.
- Ignorance of Heritage Sites' Climate Change Vulnerabilities
 - acknowledges that climate change poses an increasing threat to pilgrimage cities' physical infrastructure and cultural continuity, which relates with the idea of "sustainable future development."

1.6 METHODOLOGY

The topic was selected based on the detailed study of heritage pilgrimage cities, and government schemes such as AMRUT, SCM, PRASAD and HRIDAY. Research methods used are- Library research method: notes making, content analysis and Field research method: observation, questionnaire, case studies, group and focussed interviews (Kothari, 2004). Primary data included site surveys, questionnaires, Photography, interviews, Expert opinion, general surveys, Case Studies and interviews and secondary data including government reports, scheme documents, city master plans, media articles, research papers, magazines, books and journals. Simultaneously problem identification and project need were identified. Project scope, limitations and three objectives were defined. Data sources, collection and organization of data were done. Under analysis, both quantitative and qualitative data analysis methods were involved for the research. The study further lays out issues, survey results and analysis and proposed recommendations for the identified issues in cities and gaps in policies. Finally, the project is concluded with a discussion of the significance of acting in the path of heritage inclusivity and sustainability for pilgrimage cities.

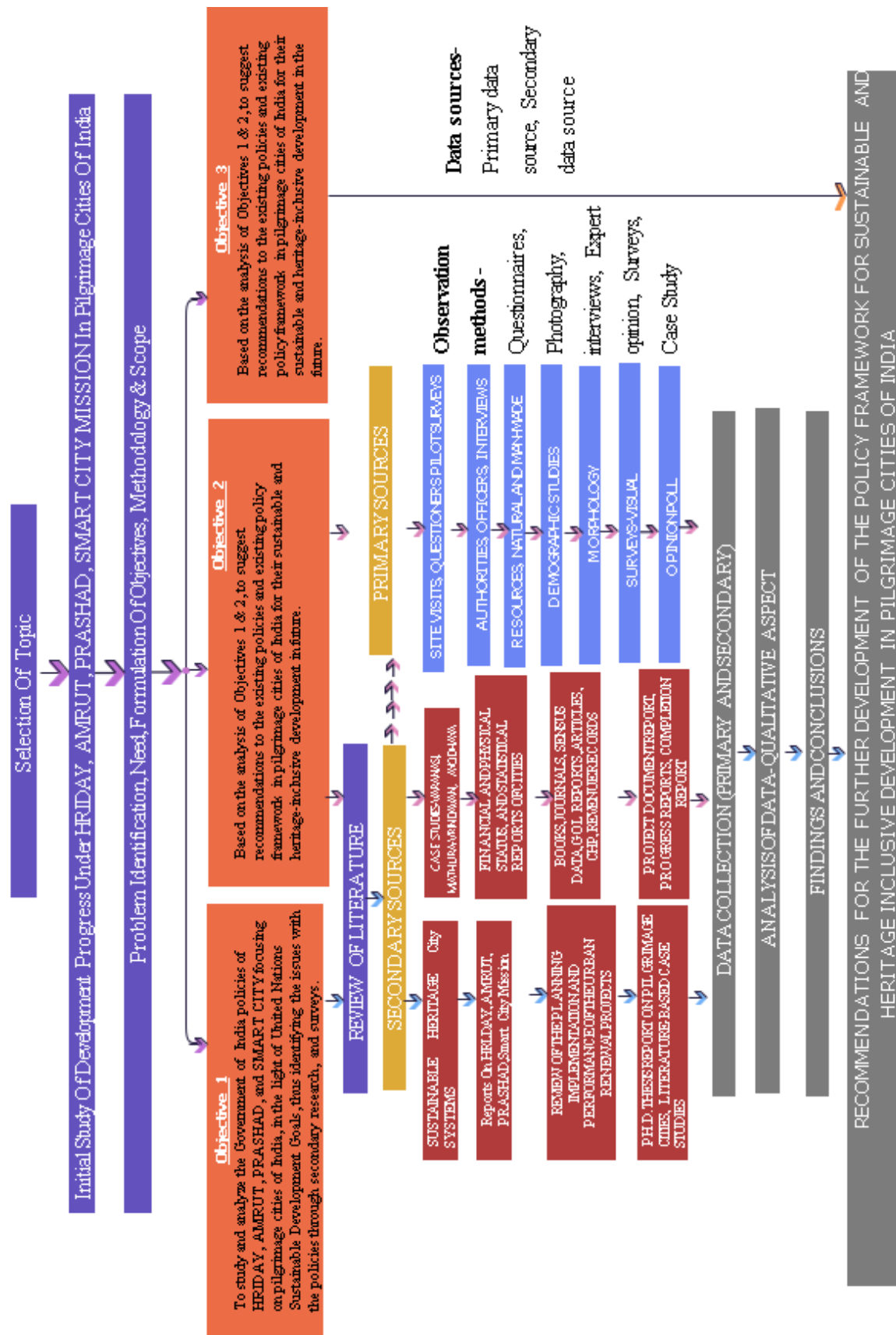


Figure 1: Methodology chart

Source: author

1.7 SCOPE AND LIMITATIONS

1.7.1 Scope

This study is limited to examining how sustainable practices, heritage-inclusive design, and contemporary urban development initiatives interact in a few Indian pilgrimage cities, specifically in connection to SDG 11 (specifically objectives 11.1, 11.2, 11.3, 11.4, and 11.b). Varanasi, Mathura-Vrindavan, Dwarka, Puri, and Madurai are the five major pilgrimage cities that are the subject of the study. These cities have been given priority under the Government of India's HRIDAY, PRASHAD, AMRUT, and Smart Cities Mission for sustainable and heritage-centric urban development.

The scope includes an interdisciplinary approach that uses knowledge from public administration, economics, geography, and sociology to evaluate and comprehend architectural features, urban planning, heritage preservation, and the efficacy of policies in these cities. Intangible heritage (rituals, customs, festivals, religious practices, and local knowledge systems) and physical heritage (built environment, holy architecture, and urban form) are both covered in the study.

In this study, sustainability is examined from four interconnected perspectives:

- Environmental sustainability: investigating resilience tactics, green infrastructure, and ecological effects.
- Economic sustainability: examining local livelihoods and tourism as well as other heritage-based economic potential.
- Social sustainability: evaluating community well-being, public involvement, and inclusivity.
- Cultural sustainability: emphasizing how cultural, spiritual, and historical values are integrated and maintained within contemporary urban contexts.

The study intends to create context-sensitive suggestions for guaranteeing a sustainable, resilient, and heritage-inclusive future for India's sacred cities through case-specific analysis, policy evaluation, stakeholder surveys, and fieldwork.

1.7.2 Limitations

Limited Focus on a Single SDG The study only looks at SDG 11 (Sustainable Cities and Communities) and ignores the connections or potential contributions of other SDGs, like SDG 8 (Decent Work and Economic Growth), SDG 13 (Climate Action), or SDG 12 (Responsible Consumption and Production), which may also have an impact on the development of pilgrimage cities.

Geographic Limitations The study only looks at five Indian pilgrimage cities: Puri, Mathura–Vrindavan, Varanasi, Dwarka, and Madurai. This leaves out other important pilgrimage destinations throughout India that might provide a variety of administrative, cultural, or geographic contexts.

Policy-Based Purview

Four distinct government programs—HRIDAY, Smart Cities Mission, PRASHAD, and AMRUT—are the main subject of the examination. The lack of thorough coverage of other national, state, or local initiatives as well as informal/local governance processes may compromise the thoroughness of the policy effect evaluation.

Focusing on Heritage-Inclusion and Sustainability

The study takes a sustainability and heritage-based approach to urban development, which might not adequately address more general concerns like funding for infrastructure, political pressures, disputes over land acquisition, or private sector involvement in development initiatives.

Temporal Limitations

The research reflects the policies and their implementation status up to the time of data collection. Any recent updates, scheme extensions, or newly introduced initiatives may not be incorporated, potentially affecting the currency of conclusions.

Data Access and Representation

Due to limited availability of disaggregated or city-specific policy performance data, the study may rely on secondary sources, stakeholder interviews, and field-level observations, which could introduce subjective interpretations or data gaps in evaluating policy outcomes.

1.7.3 Structure of report

The first chapter deals with a brief introduction to the context of pilgrimage cities, religious and heritage sites and related national schemes and their components of development along with the sustainability aspect of SDG 11 and its implications. It also includes the aim, objectives, method of approach, research needs and gaps. The second chapter deals with the literature part i.e. introduction to schemes, their analysis, UN SDG goals and their process of working in India. It includes the SDG 11 selection justification and stages of development. The next chapter is about the case studies of various international and national cities based on religious aspects and pilgrimage importance along with surveys and analysis. The fourth chapter includes the funding structure of the schemes and organisations at various levels. Fifth, one consists of UN SDG indicators and targets for the four major schemes and their growth patterns. Sixth chapter is all about analysis of all the data collected from primary and secondary sources; preparation of questionnaires and survey parameters and critical comparative study of the cities progress under the schemes. Seventh chapter deals with conclusions and way forward for the schemes and cities studied and future recommendations for the same. The final chapter includes all the sources referred i.e. websites, papers, reports, journals that were went through for the completion of the research.

CHAPTER 2. LITERATURE REVIEW

2. LITERATURE REVIEW

2.1. Introduction

Sustainable and heritage-inclusive development refers to the planning and execution of growth methods that assure long-term environmental, social, and economic sustainability while protecting and integrating the cities' diverse cultural legacy. This strategy strikes a balance between the necessity for contemporary infrastructure and services and the preservation of historical and cultural assets, acknowledging their value to both local communities and the public. A pilgrimage is an exploration or quest for moral or spiritual meaning. In India, a significant number of pilgrim cities are intimately related with cultural, religious, physical, and natural environments. Pilgrimage is a kind of travel that allows people to visit sacred locations with a rich history and cultural legacy, which are shared by people of different backgrounds (Naumi Garg et al., 2024). Key components for the development of such cities include environmental sustainability under which, resource management; efficient use of natural resources, including water, energy, and materials, to minimize waste and reduce the ecological footprint. Green Infrastructure includes development of eco-friendly transportation systems, green spaces, and sustainable buildings that reduce pollution and promote biodiversity. Climate Resilience and hazard management incorporating climate adaptation and mitigation measures to protect the cities from the adverse effects of climate change. It is required for Preservation of Historical Sites, i.e. protecting and maintaining temples, shrines, and other historical structures that hold religious and cultural significance. Restoration Projects: Revitalizing decaying or damaged heritage sites using traditional materials and techniques to maintain authenticity. Inclusivity is about community involvement i.e. engaging local communities in heritage conservation efforts to ensure their participation and benefit. Study will assist in developing responsible tourism practices that enhance the visitor experience while minimizing the impact on local resources and heritage sites. As per the EU, sustainability is one of the Framework for Action on Cultural Heritage's five pillars, emphasizing its ability to increase social capital, stimulate economic growth, and ensure environmental sustainability. Culture and cultural heritage can contribute to more inclusive and sustainable development (INI Design Studio, 2023).

2.2. National schemes

India with its diverse range of resources is blessed. However, it has not yet made the best use of these resources. Historically, when attempts have been made to preserve ancient and cultural resources in Indian cities and towns, the needs and aspirations of the surrounding communities as well as the key issues relating to urban development, such as the economy, urban planning, livelihoods, service delivery, utility and infrastructure distribution in the area, have frequently been disregarded. According to the Ministry of Tourism, seven projects aimed only at promoting tourism were approved in 2018-19 for a total of Rs 384.67 crore (INI Design Studio, 2023). Some of the major pilgrimage destinations of India are Vaishnodevi, Shirdi, Leh, Golden temple, Somnath, etc. The Swadesh Darshan Scheme has created theme-based circuits. The Government of India (GOI) has taken certain initiatives to resolve the existing issues with the religious and heritage cities of the country, a few are discussed below.

2.2.1. Heritage City Development and Augmentation Yojana (HRIDAY):

The heritage development of a city involves the creation and preservation of a wide range of city development, including its planning, its fundamental services, the quality of life for its residents, its economy and way of life, cleanliness, security, the revitalization of its soul, and the outward expression of its personality. (*Index @ Wwww.Hridayindia.In*, 2023) A systematic strategy is required to unlock the endless potential inherent in the tourist and heritage sector, releasing the power of skilled craftsmen, and traditional economy, to make these cities dynamic, and competitive, and solve some of the listed difficulties. This will also make it possible to seamlessly integrate the contemporary idea of local economic growth using locally accessible information, resources, and skills. Under HRIDAY, several works are being conducted in all the cities mentioned while in Puri it couldn't be executed successfully.

2.2.2. Atal Mission for Rejuvenation and Urban Transformation (AMRUT):

The scheme is launched as an updated version of JNNURM in 2015. Some of the work fields of AMRUT are Water Supply, Sewerage, Storm Water Drainage, Urban Transport management motorized transport, green space /Parks, and Simplification of building by-laws. The methodology of working includes Central Monitoring

systems for: - Sewerage levels, Water meters, billing systems, and Water quality. Pollution Global System for Mobile. Smart Home energy network system.

2.2.3. Pilgrimage Rejuvenation and Spiritual and Heritage Augmentation

Drive (PRASAD): The Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASHAD) scheme is a government of India initiative to develop and promote religious tourism in India. The scheme was launched in 2014-2015 by the Ministry of Tourism. The scheme works on the following aspects: - Perspective - Culture, Cultural Heritage, and Inclusive Heritage Development, Sustainability, Social: -Environment, Economic, and Culture. The scheme's objectives include:

- Developing and identifying pilgrimage sites across India
- Integrating pilgrimage destinations in a sustainable manner
- Providing a complete religious tourism experience
- Enhancing the tourism attractiveness of pilgrimage destinations
- Generating employment opportunities for local communities

The scheme provides financial assistance to state governments and union territory administrations for infrastructure development at tourist destinations. The Ministry of Tourism identifies destinations and approves projects in consultation with the respective state governments and union territory administrations.

2.2.4. Smart City Mission (SCM): To react to the developments and combat the challenges of the developing cities, the Indian government with prime minister Narendra Modi introduced the "Smart City Mission" in 2015, intending to implement smart solutions in India's cities in 2022. Smart cities focus on sustainability, economic development, resource productivity, job creation, and functioning necessary core infrastructure to enable a decent living quality. The scheme considers 100 cities for overall infrastructure development. It includes Housing and inclusiveness as drivers for development. The scheme works in conveyance with AMRUT, HRIDAY. SCM includes underwater supply, Sanitation, Waste management, urban mobility, Sustainable environment, Robust IT connectivity, and digitalization.

The Smart Cities Mission's goal is to promote and encourage cities to provide that core infrastructure, give a decent quality of life to its inhabitants, a clean and sustainable environment, and apply smart solutions.

TABLE 2.2 Comparative summary of schemes

Scheme / Mission	Nature of Systematic Evidence	Key Themes Identified
HRIDAY	qualitative case studies rather than extensive systematic reviews	Disconnect between the governing community and heritage infrastructure
AMRUT	Indirectly examined in research on smart cities	Financing infrastructure and merging with intelligent initiatives
PRASHAD	little peer review; incorporates the HRIDAY context	Convergence of pilgrimage heritage and governance
Smart Cities Mission	Several systematic reviews in various situations	Sustainability planning, data analytics, healthcare applications, and governance frameworks

- The technocratic, pro-market nature of SCM governance is highlighted by Roy & Ghosh (2022, Scotopia journal), who call for more inclusive and participatory governance models. These concerns include exclusion, SPV-driven planning, land acquisition, relocation, and diminished local responsibility.
- Das (2024, MDPI) illustrates the interconnected pillars necessary for a smart-sustainable city MDPI by providing a methodical thematic synthesis spanning digital transformation, governance, infrastructure, and service delivery.

Other schemes such as ABADHA for Puri: Augmentation of Basic Amenities and Development of Heritage and Architecture (ABADHA) scheme, a state scheme, to cultivate the Jagannath Temple of Puri into a world-famous heritage city(Launched in 2017). It aims to provide better and affordable facilities for pilgrims and tourists. Most of the projects are worked under this scheme; 2021-22 saw a budget of 1087 crores. Proposed works under the scheme include Puri Heritage Corridor Project: Shree Jagannatha Heritage Corridor (SJHC), Puri Lake development project, up-gradation of Raghunandan Library, Matha development initiatives, Musa River revival plan, Jagannath Ballad Pilgrim Center, acharya Harihar square development, atharnala

heritage development, housing projects, Shree setu plans, etc. (Municipality, n.d.-a). The chart below shows a few of the works done under the central schemes.

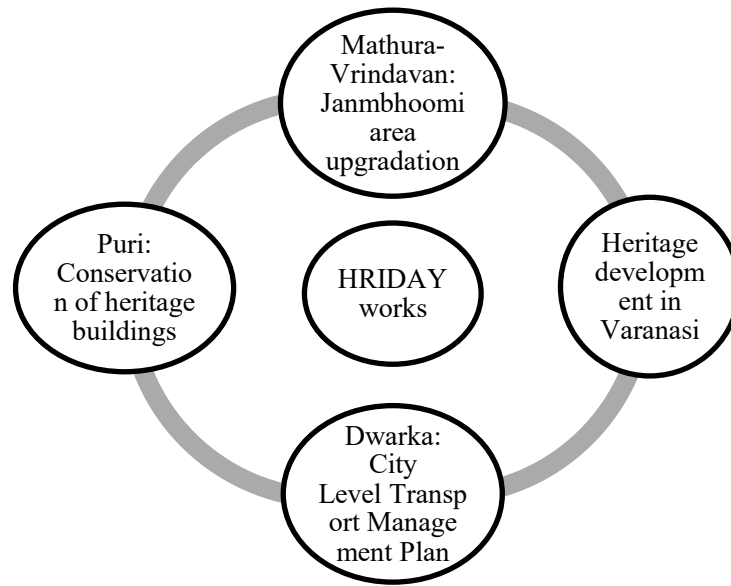


Chart 2.1: some works done under HRIDAY in the major religious cities of India

2. Gaps in Policy Formulation

Formulating effective national policies is a complex endeavor, often fraught with inherent gaps that impede successful implementation. These gaps can manifest in various stages of the policy cycle, from problem identification and agenda-setting to evaluation and revision. A primary challenge lies in the disconnect between theoretical frameworks and the practical realities on the ground, leading to policies that fail to address the nuanced needs of diverse populations. Moreover, the influence of political expediency, bureaucratic inertia, and a lack of robust data analysis can further exacerbate these deficiencies, resulting in policies that are either ill-conceived or poorly executed, ultimately undermining their intended impact on national development. As a result, the government has launched various schemes to solve these issues.

AMRUT, SMART CITY MISSION, HRIDAY, PRASAD and HOUSING FOR ALL MISSIONS IN INDIA lack an appropriate and integrated urban planning approach and implementation of heritage pilgrim cities. These policies lack the formation of the various local planning committees and lack involvement of the field experts (Kaur & Bhandari, 2023). The projects under the schemes show slow progress and no vision for existing local people at the heritage sites. The policies show poor integrity and transparency among departments and authorities. According to UNESCO, culture contributes a large

part to the employment of tourism sector workers in collaboration to SDG 8 i.e. ‘decent work and economic growth’.

- HRIDAY and PRASHAD: The majority of incentives are qualitative or policy-analytical in character; there aren't any systematic evaluations specifically focused on these topics.
- AMRUT: In integrated urban mission reviews, sparse direct systematic literature is more frequently taken into account.
- The goal of smart cities is to increase the number of systematic reviews, particularly in the areas of governance, frameworks, data systems, sustainability, and healthcare. However, there are currently few empirical impact evaluations or RCTs based on local cases.
- Disparities between schemes: Few RCT-based assessments of interventions, a dearth of localized comprehensive meta-analyses, a lack of empirical user-level research, and a poor inclusion of underrepresented voices and organizational accountability.

2.3 United Nations Initiative for Sustainability and Heritage Development

The Sustainable Development Goals (SDGs) are a group of seventeen worldwide objectives that were established by the United Nations (UN) in 2015 to eradicate poverty, protect the environment, and ensure peace and prosperity for everyone. UN SDG 11 mentions about safe, resilient, inclusive and sustainable cities by 2030. The SDG 11 lays targets and indicators to measure and achieve the goal. Target 11.4 says, ‘Strengthen efforts to protect and safeguard the world’s cultural and natural heritage’, i.e. acting for protection of our heritage at international level. The goal is further aligned to Indian factors and needs at national level. Social, economic and environment are three pillars of sustainable development. Culture is the fourth pillar of Sustainable development “at World Congress of UCLG-2010. Culture mediating between the three pillars and foundation for

sustainable development. All the pillars are inter-related, and they show ever-changing dynamics of culture and sustainable development.

2.4 Sustainable Development Goals: India

India has 17% of the world's population, which makes it essential for accomplishing global goals. Despite the country's challenges, India launched the SDG India Index 2018 first in the world. The index was more precisely updated in 2019. The Index was crucial in inspiring the states and union territories to act in support of the SDGs. It aided in raising awareness of the SDGs among the public, the press, academics, and civil society. To demonstrate good SDG implementation, several states have started rating districts. The combined effort of the central and state governments has led to a growth-driven atmosphere among the public. From Make in India to the Swachh Bharat Abhiyan, from the Smart Cities Mission to the SDGs, from affordable housing to green energy, and many other initiatives, inciting competition among the stakeholders has resulted in rapid and high-quality development. As a framework for guiding development actions at the national and sub-national levels, the SDGs have been accepted by the government. HRIDAY, AMRUT, and PRASHAD are merely a few examples of government policies that are closely aligned to the SDG priorities and enable accelerated progress towards meeting the Global Goals on schedule.

2.5 Selection Criteria, SDG 11-Sustainable Cities, And Communities

Following the COVID-19 global pandemic and our attempts to set a new development trajectory for the post-pandemic future, India's commitment to the SDGs has only become stronger. India's progress may be seen in the improvements in poverty reduction, agricultural output, illness eradication, mass education, industrial activity, innovation, and urban growth. The ambitious SDG 11 agenda aims to create more resilient, inclusive, and sustainable cities. The independent urban objective has thrust urbanization to the fore of policy considerations. The goal highlights that cities have an explicit role to play in enabling sustainable development writes Hitesh Vaidya, Director of the National Institute of Urban Affairs in his paper in 2022. Ten specific targets and 15 specific indicators are included in SDG 11, which is to "Make cities and human settlements inclusive, safe, resilient, and sustainable". Under the SDG 11 localization, cases of five Indian religious cities are considered for the study of the impact and

progress of the SDGs implementation i.e., Mathura-Vrindavan, Madurai, Puri, Dwarka, and Varanasi.

2.6 Inclusive Heritage-Based City Development Program

With migration-driven rapid urbanization, Indian cities have seen uncontrolled development and chaotic building to accommodate the expanding population, with little regard for the importance of historic regions and heritage assets to the city's character creation and evolution (Abakerli, 2017). Indian cities are blessed with historic, cultural and various heritage sites which are undervalued and left in poor conditions. Heritage is an asset inherited from the past generations, which includes natural, tangible, intangible and cultural elements. Natural heritage includes environment and ecosystems, tangible include physical objects while intangible is nonphysical like knowledge, skills, tradition and rituals and cultural heritage are arts, language and customs passed. Essentially, heritage is the legacy of the past that shapes our present and influences our future. It is something that is valued and preserved for future generations. Heritage holds social, economic and environmental values. Considering the past events, present conditions and future aspects the government has launched certain policies for the preservation and protection of the rich Indian heritage. AMRUT scheme (earlier JNNURM) launched in 2015, has taken steps to develop the heritage infrastructure in 500 cities among its other works. As per reports, less than 2% of funds allocated by JNNURM for urban renewal (2012). IHCDP in India (World Bank & Cities Alliance-2011):- Pilot Phase-1 (2012-14) IHCDP, HRIDAY guidelines; Phase-2 (2016-18) Scale up successful approach in 12 cities under HRIDAY. The schemes have worked well in most of the areas, while some faced challenges in on-ground implementation. Indian heritage development works are still facing issues like monument centric approach, decline of heritage assets, lack of public policies for cultural landscape management, abundant areas, lack of adequate urban revitalization approaches, non-alignment to existing environment, irreversible impact of urbanization made limitations for new projects.

2.7 UN SDG Targets and Indicators

The United Nations Sustainable Development Goals (SDGs) are a set of 17 global objectives aimed at addressing a wide range of social, economic, and environmental challenges by 2030. Each SDG is accompanied by specific targets and indicators

designed to measure progress. The targets are detailed, quantifiable outcomes that contribute to achieving each goal, while the indicators are metrics used to track and assess progress toward these targets. For instance, UN SDG 11 lays down seven targets and corresponding indicators for agenda 2030. The SDG 11 targets and indicators serve as a comprehensive framework for governments, organizations, and individuals to monitor and accelerate sustainable development efforts worldwide, promoting accountability and transparency in the global push toward a more equitable and sustainable future. The numerous SDG 11 targets and indicators are linked with the policy ideas, and their progress is evaluated. This chapter also gathers information on the finances suggested and authorised for the initiatives and projects proposed. The data is used to analyse work status, allocate funds, and to comprehend how the authorities function. The scheme and organisation structure are also discussed here to provide an extensive overview of how the scheme works.

2.7.1 UN SDG Targets and Indicators

UN SDG 11 targets and Indicators covers areas affordable housing, disaster management, sustainable transport systems, inclusive and sustainable urbanization, heritage protection, disaster risk reduction, public spaces, environment, vulnerable communities and economy on a global scale. India has its own targets and indicators aligned to UN SDG 11 targets and indicators framed by the NITI Aayog.

Table 2.3 UN SDG Global, Indian Targets and Indicators

Targets	Indicators	Indian Indicators
11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1: Proportion of urban population living in slums, informal settlements or inadequate housing	11.1.1 Percentage of slums /economically weaker sections (EWS) households covered through formal /affordable housing 11.1.2 Percentage of slum area covered with basic services 11.1.3 Proportion of urban population living in slums, informal settlements or inadequate housing
11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road	11.2.1: Proportion of population that has convenient access to public transport, by sex, age and	11.2.1 Proportion of cities with efficient mobility and public transport

safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	persons with disabilities	
11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	11.3.1: Ratio of land consumption rate to population growth rate 11.3.2: Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically	11.3.2 Share of mixed land use area in overall city land use 11.3.3 Net density
11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	11.4.1: Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)	11.4.1 Restoration and reuse of historic buildings
11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	11.5.1: Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population 11.5.2: Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters	11.5.1 Number of deaths, missing persons, directly affected persons attributed to disaster per 100,000 people
11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special	11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total	11.6.1 Proportion of urban solid waste collected and adequate final discharge out of total urban solid waste

attention to air quality and municipal and other waste management	urban solid waste generated, by cities 11.6.2: Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	generated by cities
11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.1: Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities 11.7.2: Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months	11.7.1 Per capita availability of green spaces
11.A Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning	11.a.1: Number of countries that have national urban policies or regional development plans that (a) respond to population dynamics; (b) ensure balanced territorial development; and (c) increase local fiscal space	11.a.1 Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city
11.B By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels	11.B.1: Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030	11. b.1 Whether the country adopted and implemented national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2031

11.C Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials	11.C.1: Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials	
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Source: (NITI Aayog, 2019)

Total funds available under UN India is 112.1 million US dollars. India SDG funds for goal 11 is 181000 US dollars. UN SDG 11 funds are 0.16 % of the total fund Estimated by Nationally Determined Contributions - Paris Agreement (2015), India alone needs 170 billion dollars per year from 2015 to 2030 to fulfil the Sustainable Development Goals (SDG) (NITI Aayog, 2020).

2.7.2 HRIDAY in Sync with UN SDG 11 Targets and Indicators

Under the scheme, they have created effective linkages between tourism and cultural facilities and the conservation of natural and built heritage. Established and managed effective public private partnership for adaptive urban rehabilitation. Development and promotion of core tangible economic activities to enhance avenues of livelihoods amongst stakeholders. Include necessary skill development amongst them including making public spaces accessible and developing cultural spaces. The works have been making cities informative- modern ICT tools, making cities secure with modern surveillance and security apparatus like CCTV etc. Increase accessibility i.e. physical access (roads as well as universal design) and intellectual access (i.e. digital heritage and GIS mapping of historical locations/ tourist maps and routes). Enhance heritage-sensitive infrastructure (planning, development, and implementation). Introduction of service delivery, and infrastructure provision befitting the core areas in historic cities. Preserve and revitalize heritage wherein tourists can connect directly with city's unique character. Develop and document a heritage asset inventory of cities - natural, cultural, living and built heritage as a basis for urban planning, growth and service provision & delivery. Local capacity enhancement for inclusive heritage-based industry. Similarly various heritage emphasized development, upgradation and rejuvenation works have been undertaken under HRIDAY in the selected cities.



Figure 2.1 Dwarka city HRIDAY zones

Source: HRIDAY Facebook page



Figure 2.2 Varanasi HRIDAY works

Source: (VMC, 2014)

Implementation and enhancement of basic services delivery with focus on sanitation services like public conveniences, toilets, water taps, streetlights with use of latest technologies in improving tourist facilities/amenities. Implementation and enhancement of basic services delivery with focus on sanitation services like public conveniences, toilets, water taps, streetlights with use of latest technologies in improving tourist facilities/amenities. Urban heritage adaptive rehabilitation and maintenance, including appropriate technologies for historic buildings retrofitting.

2.7.3 PRASAD in Sync with UN SDG 11 Targets and Indicators

The Uttar Pradesh State Tourism Policy i.e. Braj Agra worked on Mathura circuits. Water cruises Circuits. Integrated development of pilgrimage destinations in a planned, prioritized and sustainable manner to provide complete religious tourism experience. To enhance tourist attractiveness in a sustainable manner by developing world-class infrastructure in religious destinations. Harness pilgrimage tourism for its direct and multiplier effects on employment generation and economic development. Promote local art and culture, handicraft and cuisines, etc. to generate livelihood in the identified places. Creating awareness among the local communities to increase income, improved living standards, and over all development of the area. Leveraging public capital and expertise.



Figure 2.3 PRASAD proposal at Mathura Vrindavan
Source:(MOT & PRASAD, 2021)



Figure 2.4 Dwarka works under PRASAD
source:(Kapadia, 2008)

2.7.4 AMRUT in Sync with UN SDG 11 Targets and Indicators

Improvement in urban transport facilities. Capacity building. Reform implementation. Water supply and management of sewerage and septage assured for every house. Drainage of stormwater. Reduce pollution by switching to public transport or constructing facilities for non-motorized transport. (walking and cycling). Increase the amenity value of cities by developing greenery and well-maintained open spaces (e.g. parks). Outcomes to be valued by citizens, women, indicators, and standards by (MoHUA) in the form of Service Level Benchmarks (SLBs).



Figure 2.5 Transport Development Works under AMRUT (125-Amrut @ Udd.Uk.Gov.In, 2023)



Figure 2.6 parks in Mathura Vrindavan (Mathura HRIDAY Works @ Wwww.Dpc.Co.In, 2023)

2.7.5 Smart City Mission in Sync with UN SDG 11 Targets and Indicators

Affordable housing, especially for the poor. Efficient urban mobility and public transport. Robust IT connectivity and digitalization. Good governance, especially e-Governance and citizen participation. Follow community-based development and pro-poor tourism concepts in the development of pilgrimage destinations. Adequate water supply assured electricity supply, sanitation, including solid waste management. Sustainable environment, safety and security of citizens, particularly women, children and the elderly, and health and education.



Figure 2.7 SCM development factors



Figure 2.8 Kashi Vishwanath Corridor, 1400 people were uprooted (Singh & Rana, 2017)

2.8 City Wise Scheme Organization Structure

Puri town is served by HRIDAY, PRASAD, AMRUT and state scheme ABADHA. For HRIDAY, at national level, Union Ministry of Urban Development and SDG National institute for Urban Affairs (NIUA) are working, while State Government of Orissa and Orissa tourism are collaborating at state level and at local level, municipality and PWD are executing the projects sanctioned. ABADHA directly works with the local municipal authority and public works department of the town.

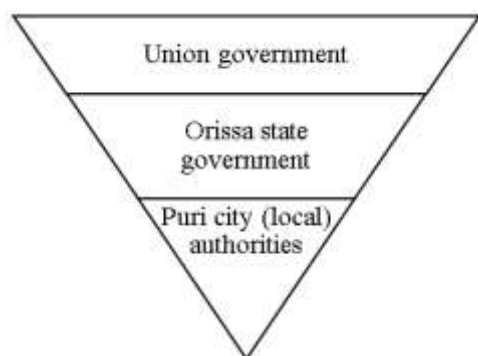


Chart 2.2 PRASAD Organisation Structure

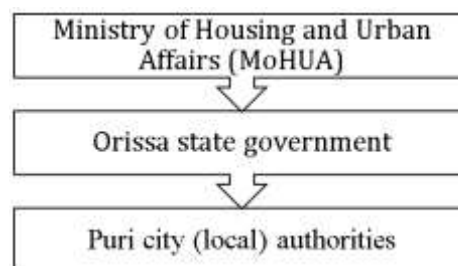


Chart 2.3 Puri city AMRUT organisation structure

In Madurai, SCM and AMRUT are working for heritage development. Initially the Ministry of Urban Development oversees the SCM works in Madurai. Secondly, the state seeks public-private partnerships and city work departments. Third, the SCM is carried out in the city by the Madurai Municipal Corporation and special-purpose vehicles (SPVs) (Kundu et al., 2019).

PROPOSALS UNDER "AMRUT"			
Sd. No.	Name of the Work	Estimate Amount Rs.in crore	Present Status
1	Dedicated Water Supply Scheme from Madurai City Municipal Corporation from MULLAI PERIYAR River (at Lower Canal)	1148.08	Detailed project Report submitted and under appraisal
2	Water Supply Distribution System for the Newly added area	444.19	IWR prepared proposal to govt under "AMRUT" 2015-16
3	Revamping Water Supply Distribution System for the erstwhile Corporation area	392.53	
4	Under Ground Sewage Scheme for the Newly Added Area	930.00	
TOTAL		2966.74	

Figure 2.2 Funding of Madurai AMRUT scheme (Ahmedabad Municipal Corporation, 2016)

TNUISL REVISES COST TO ₹370 CRORE			
Details of connection	Domestic	Non Domestic	Industrial
Existing connections	68,617	6,530	272
Proposed connections	77,879	9,679	0
AMRUT 4TH PACKAGE FUNDING PATTERN (TOTAL COST ₹370cr)			
Cost (in crores)			
Grant from project sustainability grant fund of Asian Development Bank	348.90 (95%)		
Loan from Tamil Nadu Urban Development Fund	92.65 (25%)		
Madurai corporation	37.06 (10%)		

Figure 2.3 Madurai MC 2018-19 Budget

In Mathura Vrindavan, all the four scheme are working while the success differs from one another. As for HRIDAY, MoUD is at the top then mission directorate and urban local bodies that are working for the project execution. Under AMRUT, Ministry of Housing and Urban Affairs (MoHUA) has set up service level benchmarks for quality improvement with collaboration of State Annual Action Plan, State level High Powered Steering Committee (SHPS) and Nagar Nigam. State high committee is also working at state level to ensure completion of the projects. For PRASAD, national tourism ministry collaborates with state tourism department and local

municipality for project execution. MoHUA, state SCM committee and Nagar Nigam are collaborating for smart city projects.

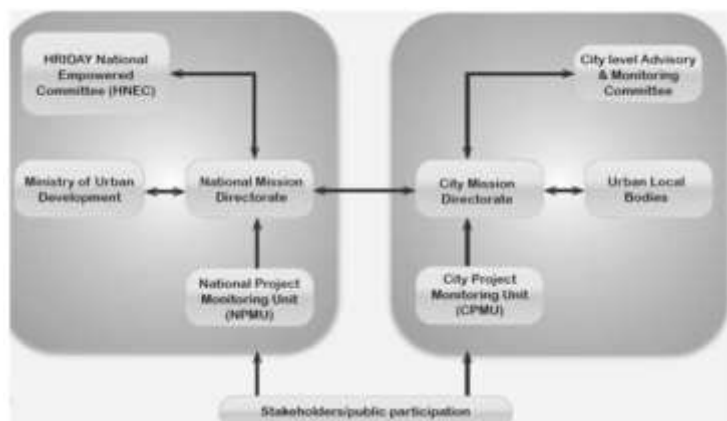


Figure 2.4 Hriday Organisation Structure in Mathura
(*MATHURA HRIDAY WORKS @ WWW.DPC.CO.IN,*
2023) Vrindavan, Dwarka and Varanasi



Figure 2.52 Varanasi SCM

2.9 Funding For Central Schemes

The global population rise in urban areas is a huge growing challenge for all the nations. About 200 million people will probably move in the next 15 years from rural areas to the Indian cities, and by 2050 416 million people are expected to move to urban areas (Bobek et al., 2021). Funding for central heritage schemes in India is primarily managed through various government initiatives aimed at preserving and promoting the country's cultural heritage. These schemes are typically overseen by the Ministry of Culture, with some involvement from other ministries like Tourism, Urban Development, and others, depending on the nature of the project.

These schemes highlight the Indian government's commitment to preserving and promoting the country's rich cultural heritage, with funding mechanisms that ensure both governmental and private sector involvement.

2.9.1 Scheme Funding

Fund approved so far for Puri town is 864.28 crores during the period of 2016-2021.

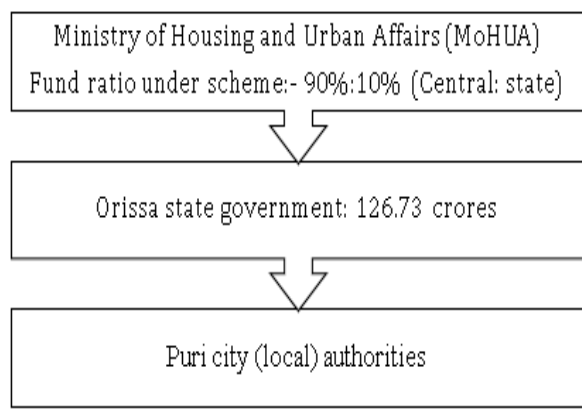


Chart 2.4 AMRUT Funding Structure for Puri
(Municipality, 2024)

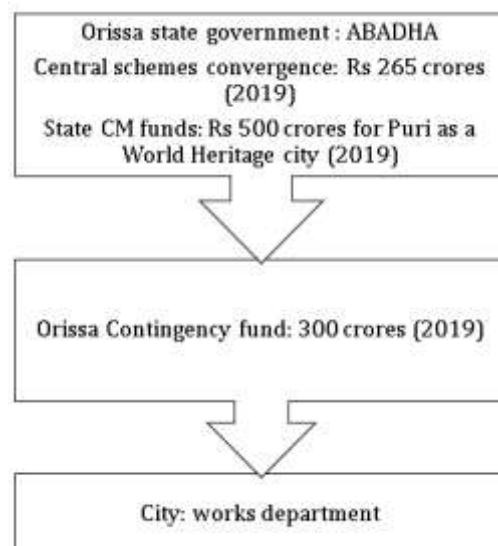


Chart 2.5 ABADHA Funding for Puri

Table 4.4 Fund Distribution of HRIDAY in Puri Town

S.N.	Project Components	Current Allocation in HRIDAY (in cr) (20 cr.)	Committed funding from other schemes	Departments / Ministries/ Organizations (20cr)
ZONE I : SANKHA KSHETRA HERITAGE ZONE				
1	Streetscape Improvement of Bada Danda through provision of surface treatments for segregating vehicular and pedestrian movement	1.80	-	-
2	Provision of Commercial Kiosks on Grand Road (through self-financing)	-	1	Puri Municipality, Government of Orissa
3	Bada Danda (Grand Road) – Footpath Widening	-	5	Public Works Department (PWD), Government of Orissa

4	Retrofitting of building facades along the parikrama Marg of Shri Jagannatha Temple	3	-	-
5	Provision and Improvement of Drainage on the Periphery road of Shree Jagannath Temple (Parikarma)	-	2	
6	Landscape development of Shri Jagannatha Ballabh Matha Garden	1.5	2.5	-
ZONE II : RIVER MUSA ENVIRONMENTAL ZONE				
7	Landscape Development and Improvement of Streetscape for a 1km stretch of active river via Provision of Walkways, Cycle tracks (improved NMT facilities), NH203 and NH 203A from Atharanala to Mangala Ghat and the Nodes connecting it with Bada Danda.	2	-	-
9	Revival of Pokharis/ponds located in Jagagharas (desilting, dredging and landscape development)	1.15	-	-
ZONE III : BALUKHANDA RECREATIONAL ZONE				
10	Provision of improved landscape through hardscape and softscape and Visitor Amenities for Marine Drive and the Extended Sea Beach	2.5	-	-
11	Landscape Development of Banki Muhan through provision of mixed vegetation as cyclone barrier, walking and cycling tracks, amphitheatre, platform for vendors of local crafts and food, interpretative panels on maritime history of Puri, plumbing services using treated water from Banki Muhan treatment plant	3.66	-	-
	Total	20.46	56.35	-

The historic city of Madurai is known for the famous Meenakshi temple and surrounding heritage sites which need immediate maintenance and upgradation works for preservation and protection. Execution of these works require enough budget from

the schemes to function properly. Total project funds approved under SCM in Madurai is 1342 crores.



Figure 2.6 Madurai SCM Scheme Funding (Bobek et al., 2021)

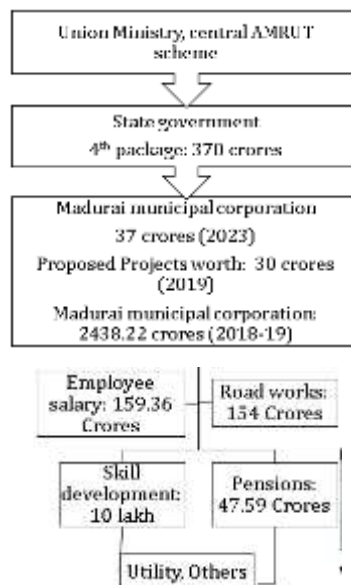


Figure 2.7 AMRUT funds breakdown in Madurai

S No	Components	% of total funds
1	HRIDAY Pilot Cities Project implementation	85%
2	NPMU/City PMU Establishment and operationalization at MOUD/City	3%
3	Capacity Development for Heritage Cities	3%
4	DPRs and Development / Management Plans	4%
5	IEC	4%
6	A&OE	1%

Figure 2.8 HRIDAY Funding Structure

Sr. No.	Name of Project	Final Project Cost (₹ Cr.)	Amount released to City (₹ Cr.)
1	Redevelopment and Revitalisation of Vrindavan Parkrama Marg	4,06,20,000.00	7,68,38,845.00
2	Revitalization of Historic Krishna Janmabhoomi Project	3,71,97,724.00	5,20,97,724.00
3	Regeneration of Historic Vishram Ghat	3,20,00,000.00	0.00
4	Revitalization of the Historic Chhatra Bazar	5,50,00,000.00	3,91,12,035.00
5	Proposal for installation of CCTV Cameras at Krishna Janmasthan, Vrindavan Parkrama Marg & Vishram Ghat	0.00	0.00
6	Proposal for Beautification of Krishnapuri Tirtha at Mathura	0.00	0.00
7	Facade Lighting at Pitra Kund at Mathura	0.00	19,94,49,821.00
8	Installation of Street Furniture etc	0.00	0.00
	Total	18,55,17,724.00	36,94,97,231.00

Figure 2.9 HRIDAY Funding Breakdown

Mathura Vrindavan has total HRIDAY funds of 40.04 crores for the tenure 2014-15. AMRUT Fund estimate for Mathura-Vrindavan by Committee 2011 consists of Rs. 39.2 lakh crores were required for creation of urban infrastructure. Rs. 17.3 lakh crore for urban roads. Rs. 8 lakh crores for services such as water supply, sewerage, solid

waste management and storm water drains. Operation and Maintenance (O&M) estimated to be Rs. 19.9 lakh crore. Nagar Nigam have approved 51.8 lakh for parks development. Under PRASAD, works such as development of Govardhan Mathura for a sum of INR 39.73 Cr. (2019), Multi-Level Car Stand Block, Cloak Room & Toilets, Boundary wall and Surface development at Govardhan Bus Stand INR 15.82 Cr. Local bodies have received 52.4 crores.

In Varanasi, HRIDAY works are heritage Street Lights cost Rs. 26.8 cr. Theme based redevelopment of roads: Rs.51.72 Cr. 100 sites development with 80 Cr. Facade improvements and restoration of Ghats, development of new toilets and up-gradation of existing toilet of Rs. 16.38 cr. Face-lift of temple area: Rs.1.00 Cr. Development of Town hall as heritage centre: Rs. 13 cr. Fund released: 19.36 crores (2018-19). Works under AMRUT include augmentation of existing water Supply system including smart metering for Rs. 75 cr. Sewerage System with SCADA System implementation: Rs. 481 cr. Landscaping and development of 3 parks: Rs. 1.25 cr. In case of AMRUT, Centre and state proposed Rs 10,124 crores. There were 542 infrastructure projects. Varanasi Nagar Nigam received a total of 2911 crore rupees. PRASAD work funds include jetty development for mooring and charging of battery of boats, filter water cooler, 60 Chattri, 60 stone slab, signage, dustbin, 72 RCC bench, Urinal, changing rooms for 3.6 crores.

Summary of Resourcing Plan

Rs. in Crores		
S.NO.	Source of Funds	% Share
1 Smart City Grant-Gol Share	488.00	16.76%
2 Smart City Grant- State Gol.Share	488.00	16.76%
3 Convergence Funding	1021.48	35.09%
4 CSR	268.45	9.22%
5 PPP	139.64	4.80%
6 ULB Own Sources	505.45	17.36%
TOTAL-Inflows	2911.02	100.00%

Figure 2.10 SCM Funds in Varanasi (Moik et al., 2021)

Sum of 2070 crores for 31 cities including Dwarka sanctioned (2018). Funding ratio is 50:50 for centre and state for Gujarat (Dwarka city). Under PRASAD, for development of Dwarka fund Allocated is 13.08 crores, and fund Utilized is 10.46 crores.

Sl. No.	Name of the City(State)	No. of Projects implemented	Funds allocated**	Funds released during F.Y. 2018-19#	Total funds released upto 31 st March 2019**	Utilization Certificates received till 31 st January, 2022
1	Dwarka (Gujarat)	8	22.26	09.45	27.76	22.47

Figure 2.11 HRIDAY Funds in Crores for Dwarka (Centre, 2016)

The financing mechanisms for the chosen pilgrimage cities are examined to assess the funding bodies, discrepancies between the requested and actual amounts, and efficient use of cash. The central: state ratio of the total amount of granted monies determines the funding arrangement for the cities. Varanasi is also given the greatest amount of funding for SCM AND HRIDAY. The entire funding amount is contingent upon several parameters, including the city's classification in accordance with Census and RBI guidelines, as well as estimates for the planned projects from state and local authorities.

The funding hierarchy illustrates how money moves from top to bottom, becoming distributed at various levels and being utilised by local government.

2.10 Summary

According to Sinha (2014), heritage conservation may be a powerful tool for community empowerment and a catalyst for the spiritual enrichment of tourists when it is approached via an integrated socio-spatial framework. According to the theory of heritage ecology, cultural development is a process based on balancing material and immaterial heritage values, and Dharma—which is understood as the moral and ethical hierarchy of responsibilities—is essential to promoting social cohesion and group welfare (Singh & Rana, 2016). However, the development of an active "civic culture" is still severely hampered by the lack of general civic awareness and the low level of civic participation in decision-making processes. The operationalization of recognized historic management principles is further hampered by the poor communication between legislators, implementing agencies, and local stakeholders.

Even though INTACH (Indian National Trust for Art, Culture and Heritage), New Delhi, is tasked with creating and carrying out plans for heritage development, institutional inefficiencies, protracted legal proceedings, and disjointed coordination mechanisms continue to impede progress. Significant gaps exist in the development

and implementation of major Government of India initiatives, including AMRUT, Smart Cities, HRIDAY, and Housing for All. Additionally, there is a lack of integration of heritage-sensitive urban planning approaches in pilgrimage city contexts (Rana, 2021). The Kashi Vishwanath Corridor project, which involved the acquisition of about 300 buildings and the relocation of 1,400 residents and shopkeepers, is an example of rapid and haphazard planning interventions that led to the extensive destruction of the vernacular built fabric, the uprooting of local populations, and the loss of heritage character (Vaidya, 2016; Singh, 2019).

The creation of pilgrimage cities must give priority to livability, cultural vibrancy, and spiritual well-being in order to meet Sustainable Development Goal (SDG) Target 11.4, which highlights the preservation of the world's natural and cultural heritage. In order to guarantee heritage-led urban regeneration, achieving these results calls for inclusive governance, community education, and participatory planning. In contrast to tourism-centric economic growth, Kumar (2020) emphasizes the necessity of rethinking and re calibrating present urban development paradigms towards resilience and sustainability. Policy frameworks must highlight the following in order for Indian historic cities to reach their full potential (Rypkema, 2016; Abdurahman, 2022).

- Incorporating resources from cultural heritage into the urban economy,
- Heritage preservation as a top priority in city development plans (CDPs) and statutory master plans,
- Incorporating cultural customs that are intangible into planning procedures, and
- Connection between the goals of sustainable urban growth and historic preservation.

By taking a multi-scalar and transdisciplinary perspective, cultural resilience is in line with the larger goals of sustainable urbanization, guaranteeing that heritage serves as a tool for civic and spiritual regeneration as well as development.

CHAPTER 3. CASE STUDIES

3. CASE STUDIES

3.1 Introduction

This chapter deals with the case studies done at national and international levels. Three pilgrimage cities are studied at internationally and five cities are studied nationally. Case studies on pilgrimage cities provide valuable insights into the unique challenges and opportunities these sacred heritage destinations face. They explore aspects such as sustainable tourism, heritage conservation, and the socio-economic impact on local communities. In Mecca, studies focus on the infrastructure and urban planning required to host the Hajj pilgrimage. For instance, studies on Varanasi highlight the delicate balance between preserving its ancient ghats and temples while accommodating millions of pilgrims annually. These case studies emphasize the need for integrated development approaches that respect cultural heritage, promote economic growth, and ensure environmental sustainability. By examining these cities, issues have been identified for which alternate analysis and best practices can be proposed for managing religious tourism and preserving heritage and cultural legacies.

3.2 International Pilgrimage Cities

Tourism plays a significant role in global trade, contributing to national economies, foreign exchange earnings, employment, and development. It is considered the fourth dimension of modern economics (Tomer & Arora, 2012). International pilgrimage cities are globally recognized as spiritual and cultural hubs, attracting millions of visitors each year from various religious traditions. Religious tourism is gaining popularity because of modern social and cultural trends. Pilgrimage centres have significant roles in religion, heritage, and tourism culture globally (Hassan et al., 2023). The number of pilgrims who visit the shrine (or comparable sacred complex) during religious occasions determines the prominence of holy towns. The most major holy cities are Mecca, Jerusalem, and the Vatican, which receive many pilgrims throughout the year (Rosina & Maroufi, 2017). Mecca in Saudi Arabia, for instance, is the holiest city in Islam, drawing Muslims worldwide for the annual Hajj pilgrimage, a journey of profound spiritual significance. Vatican City, the heart of Roman Catholicism, not only serves as the residence of the Pope but also houses renowned religious art and architecture, making it a major pilgrimage and tourist destination. Jerusalem, a city sacred to Judaism, Christianity, and Islam, offers a unique convergence of religious

sites, including the Western Wall, Church of the Holy Sepulchre, and Al-Aqsa Mosque, reflecting its deep historical and spiritual legacy . These cities not only play pivotal roles in religious observances but also act as custodians of rich cultural heritages, often facing the challenge of balancing modernization with the preservation of ancient traditions and sacred spaces.

Table 3.1 City Selection Criteria

Criteria	Mecca	Jerusalem	Vatican City
1. Pilgrimage Significance	Millions travel there for the Hajj and Umrah, making it the holiest place in Islam.	Sacred to Judaism, Christianity, and Islam; year-round pilgrim flows	Center of Roman Catholicism; draws global Christian pilgrims
2. Global Religious Importance	One of the Five Pillars of Islam; international Islamic identity	Shared spiritual heritage; recognized globally for interfaith significance	Seat of the Pope; symbolic and administrative capital of Catholicism
3. Urban and Heritage Complexity	Rapid urbanization (e.g., expansion near Masjid al-Haram); heritage tensions	Layers of ancient, medieval, and modern urban fabric; heritage under conflict	Heritage city with Renaissance and Baroque treasures; strict conservation policies
4. UNESCO/Heritage Recognition	Nearby sites in Hejaz railway corridor; challenges in inscription due to religious sensitivities	Old City and its Walls inscribed (UNESCO World Heritage, 1981)	Entire city is a heritage microcosm; in UNESCO's tentative list (via Italy)
5. Planning & Governance Model	Top-down urban planning; religious authority-driven development (Saudi Vision 2030)	Multiple governance structures (Israeli, Palestinian, Jordanian, religious)	Unique independent theocratic state; coordinated with Rome and Italy
6. Infrastructure for Pilgrims	Massive investment in transport, accommodation, crowd control	Heritage conservation vs. development debates; mixed infrastructure	High-quality infrastructure managed within compact sacred geography

Criteria	Mecca	Jerusalem	Vatican City
7. SDG 11 Relevance	Smart city projects (e.g., Makkah Metro); sustainable crowd management	Urban resilience, cultural heritage protection in conflict zones	Integrates sustainability in conservation, mobility, and tourism control
8. Replicability/Comparative Value	Offers lessons in managing extreme pilgrimage densities with modern tech	Offers insights on balancing multicultural heritage in contested spaces	Demonstrates heritage conservation in a microstate with global relevance
9. Policy Frameworks	Vision 2030, Hajj Pilgrim Services Program	National/municipal heritage policies, UNESCO frameworks	Vatican City-State planning norms; concordats with Italy
10. Academic/Research Value	Studied for religious urbanism, mass mobility, spiritual tourism	Interdisciplinary relevance: religion, conflict, heritage	Example of micro-urbanism, faith-based governance, and conservation

(Source: Przybysz et al., 2024, author)

Jerusalem offers intricate inter-religious and geopolitical elements, with notable heritage layers and urban conflicts; Mecca serves as an example of large-scale pilgrimage urbanism and religious infrastructure within a highly centralized and Islamic administration framework.

With its integrated spiritual, administrative, and conservation planning, Vatican City is a singular, small city-state with significant symbolic importance.

These three cities offer variation in geography, religion, and government, which enhances comparative studies and provides insights that may be applied to other Indian pilgrimage destinations.

3.2.1 Vatican, Italy

Vatican City, an independent city-state enclaved within Rome, Italy, is the spiritual and administrative center of the Roman Catholic Church. As the world's smallest independent state, both in terms of area and population, it serves as the residence of the Pope and the seat of the Catholic Church's governing body, the Holy See. The Vatican is renowned for its religious and cultural significance, housing iconic landmarks such as St. Peter's Basilica, the Sistine Chapel with

Michelangelo's famous frescoes, and the Vatican Museums, which host an extensive collection of art and historical artifacts (UNESCO WHC, 2024). It is a major pilgrimage destination for Catholics worldwide and a center for theological scholarship and religious diplomacy. The city's unique status as a sovereign entity and a religious epicenter makes it a focal point for spiritual leadership, global diplomacy, and cultural heritage preservation.



Figure 3.1 St. Peter's Basilica (16th To 18th Century) (UNESCO WHC, 2024)



Figure 3.2 City Tourist Heritage Sites (Barbara Radcliffe Rogers, 2023)

2025 is the jubilee year for Vatican city, for which a number of projects are in process. "MED25-Bella Esperanza" is a new project that the Vatican administration has unveiled. A school ship will go on an eight-month voyage beginning on March 1, 2025. It aims to spread the god's teachings to every corner of the world. Traffic tunnels are constructed for faster vehicle movement. Digitalisation of heritage sites is undertaken for maintenance.

Some of the issues identified were **lack of maintenance of heritage sites, no preservation authorities, expensive tickets and mix of cultures**. Apart from that tourist infrastructure and management is well maintained (Alex Ledsom, 2020).

As a result, under HRIDAY, **protection and preservation laws for heritage structures** shall be added. **Local preservation bodies** shall be proposed by schemes. Krishna Janmabhoomi area also has a mosque, integral development is suggested for sustainable religious tourism, under PRASAD.

3.2.2 Mecca Madina

Mecca, Makkah in Arabic, also known as Bakkah earlier. Holiest of Islamic cities, prophet Mohammad, founder of Islam, was born here. The holy city of Mecca is in southwest Saudi Arabia and is regarded the spiritual capital of one and a half billion Muslims globally. Mecca's religious prominence stems from the existence of the Ka'aba (Sacrificed House of God), which dates to Abraham's time. It is the Ka'aba that all Muslims must face in their daily prayers, as well as the destination for Muslims aiming to fulfil Islam's fifth pillar: Hajj (pilgrimage) (Rosina & Maroufi, 2017).

Existing issues in the tourism sector are low fund for execution of development works, stampede, loss of life during rush, life threatening rituals and pandemic resulted in economic decline, restricted to single community. Development works done in the city for tourism upgradation include a 'tourism development fund' (TDF); April 22, 2021- KEC* hub of 68000 sq. m tourism complex in Madinah which will include hotels, malls, cafe etc. for a whole of 15 billion riyals proposed from TDF* and products named 'Made in Makka' and 'Madinah' were manufactured to raise tourism funds and maintenance.



Figure 3.3 map location of city
(Dr. Rafat Amari, 2013)



Figure 3.4 city's major mosque (Maisah, 2024)

Apart from central funds through schemes, development is too slow and ineffective, for which a specific local tourism fund can be maintained. A multipurpose complex may be proposed under SCM to accommodate the growing tourist influx. Promotion of local products under the HRIDAY scheme may be introduced.

3.2.3 Jerusalem

Jerusalem is a city of profound religious and historical significance, revered as a sacred place by Judaism, Christianity, and Islam. Located in the Middle East, it is home to some of the world's most important religious sites, including the Western Wall, a sacred site in Judaism; the Church of the Holy Sepulchre, which marks the traditional site of Jesus's crucifixion and resurrection in Christianity; and the Al-Aqsa Mosque and Dome of the Rock, both significant in Islam (IPCC & STIFTUNG, 2020). The city's rich history spans thousands of years, marked by a diverse cultural tapestry and complex political landscape. As a focal point of pilgrimage and devotion, Jerusalem attracts millions of visitors annually, each drawn by the city's spiritual aura and historical depth. Despite its significance as a center of faith and culture, Jerusalem remains a place of tension and conflict, reflecting the broader geopolitical struggles in the region. The city's intricate blend of ancient traditions and modern realities makes it a unique and compelling study in religious coexistence and cultural heritage.

Some of the projects executed are gateway project 2016, Rental properties for tourists, tourism tax model-2018, and Permit scheme for short term rentals, market flooding by fast-track apartments' construction, disincentivizing purchase of second home. Issues identified are traffic congestion, High housing/rental prices for pilgrimage, Security disturbances and irregular and illegal rentals pricing, over construction activities.



Figure 3.5 location map
(Bucking et al., 2022)



Figure 3.6 gateway project infrastructure
(Danielle Nagler, 2022)

In comparison, as of pros, Jerusalem has Heritage-tourism balancing, conservation-led zoning, and multifaith site management. Technology-based solutions for safety and logistics; infrastructure for managing large pilgrimages in

Mecca-Madina and combining religious governance and historical conservation; maintaining holy symbols in a condensed urban form in Vatican.

3.3 Indian Pilgrimage Cities

Indian pilgrimage cities boast a rich heritage that reflects the country's diverse religious and cultural traditions. These cities, such as Varanasi, Amritsar, Puri, and Ajmer, are home to sacred sites including ancient temples, mosques, gurdwara, and churches. The architecture of these sites, ranging from the intricately carved temples of Tamil Nadu to the Mughal-era mosques in Delhi, showcases India's architectural diversity (Tomer & Arora, 2012). Festivals, rituals, and religious ceremonies are integral to the cultural fabric of these cities, attracting millions of devotees and tourists. The blend of spiritual significance and historical importance in these cities not only offers a deep connection to India's past but also plays a vital role in preserving the nation's intangible cultural heritage. Indian holy cities are extremely rich in cultural, historical, and religious legacy, attracting millions of devotees and tourists each year. These towns are frequently built around sacred locations like as temples, mosques, churches, gurudwaras, and other religious structures. These cities' legacy consists of architecture, rituals, festivals, and local traditions, as well as different cultures and a cultural tapestry.

3.4 Selection Criteria of Pilgrimage Cities

Special places for inclusive heritage development. “Under the umbrella of holistic development, the Government of India is promoting inclusive heritage sustainable development of heritage sites (cities), through active participation of stakeholders in the purview of SDGs and future development” (R. P. B. Singh et al., 2021). The seven most sacred and salvific cities of India are Ayodhya, Varanasi (Kashi), Mathura, Haridwar, Kanchi, Avantika-Ujjain, Puri, and Dwarka (R. P. B. K. S. and R. P. S. Singh, 2020).

Table 3.5 Cities selection and Schemes

Mathura	HRIDAY	AMRUT	PRASAD	Smart City Mission
Varanasi	HRIDAY	AMRUT	PRASAD	Smart City Mission

Puri	HRIDAY	AMRUT	PRASAD	-
Dwarka	HRIDAY	AMRUT	PRASAD	-
Madurai	-	AMRUT	-	Smart City Mission

Source: author



Figure 3.7 city location in Indian map

Source: author



Figure 3.8 cities selected under SCM

Source: (IBTimes Staff Reporter, 2016)

States	Cities that can be considered for development as Smart Cities	Cities identified under AMRUT	Urban population (%)	Party in power
Delhi	1	1	97.5	Asian Indian Party
Chandigarh	1	1	97.25	Union territory
Lakshadweep	1	1	78.06	Union territory
Daman and Diu	1	1	75.17	Union territory
Puducherry	1	1	68.33	AMRC
Goa	1	3	62.17	B.P.
Tamil Nadu	12	33	48.39	AIADMK
Kerala	1	18	47.7	United Democratic Front
Dadra and Nagar Haveli	1	1	46.72	Union territory
Maharashtra	10	37	45.22	B.P.
Gujarat	6	31	42.59	B.P.
Karnataka	6	27	38.67	Congress
Andaman and Nicobar Islands	1	1	37.7	Union territory
Punjab	3	17	37.48	B.P.
Haryana	2	19	34.87	B.P.
Andhra Pradesh	3	31	33.36	Telugu Desam Party
Telangana	2	15	33.36	Telangana Rashtriya Samithi
West Bengal	4	20	31.87	Terrace Congress
Uttarakhand	1	7	30.23	Congress
Manipur	1	1	29.2	Congress
Nagaland	1	2	28.85	Nagaland People's Front
Madhya Pradesh	7	33	27.63	B.P.-TSP
Jammu and Kashmir	1	3	27.37	B.P.
Tripura	1	1	26.16	CPM
Sikkim	1	1	25.15	Sikkim Democratic Front
Rajasthan	4	30	24.87	B.P.
Jharkhand	1	11	24.04	B.P.
Mizoram	1	1	24.04	Congress
Chhattisgarh	2	10	23.24	B.P.
Assam	1	1	22.93	Congress
Uttar Pradesh	13	64	22.26	Samajwadi Party
Meghalaya	1	1	20.06	Congress
Odisha	2	9	16.68	Biju Janata Dal
Assam	1	7	14.09	Congress
Bihar	3	27	11.29	Janata Dal (United)
Andhra Pradesh	1	1	10.03	Congress
Total	100	474		

Figure 3.9 Amrut Cities

Source: (Rohit Dabrai, 2015)

Table 1: Budget Outlay for 12 Cities under HRIDAY (₹crore)

City	Budget
Ajmer	40.04
Amaravati	22.26
Amritsar	69.31
Badami	22.26
Dwaraka	22.26
Gaya	40.04
Kanchipuram	23.04
Mathura	40.04
Puri	22.54
Varanasi	89.31
Velankanni	22.26
Warangal	40.54

Figure 3.10 Budget table

Source: (And & Schemes, n.d.)

TABLE 3.2 Selection Criteria for Pilgrimage Cities

Criteria	Description & Justification	Applicability to Selected Cities
1. Religious and Spiritual Significance	In order to draw pilgrims from all areas, customs, and faiths, cities must have pan-Indian religious significance.	In Hinduism, all five cities are significant religious centers.
2. Historic and Cultural Heritage Value	existence of historic temples, customs, celebrations, and architectural artifacts connected to long-standing pilgrimage customs.	Every city has its own distinct history: Shiva and the Ghats in Varanasi Puri: Temple of Jagannath Dwarka: Krishna; Mathura-Vrindavan: the site where Krishna was born - Meenakshi Temple in Madurai
3. Inclusion in National Schemes	At least one of the following programs—HRIDAY, PRASHAD, AMRUT, and SCM—applies to the cities.	One or more of these strategies apply to every city.
4. Volume of Pilgrim Footfall	High numbers of pilgrims each year suggest that municipal infrastructure and services may be under stress.	Every year, millions to lakhs of pilgrims visit all five cities.
5. Urbanisation and Development Pressure	Urban expansion, industrialization, and tourism-driven growth are putting strain on cities, affecting sustainability and heritage.	These difficulties are especially present in Varanasi, Mathura, and Madurai.
6. Regional Representation	geographic variety to represent India's several regional development methods and planning difficulties.	North: Mathura-Vrindavan, Varanasi Puri in the East Madurai in the south Dwarka in the west
7. Potential for Sustainable Urban Planning	There is room to combine innovative solutions, contemporary urban planning, and historical conservation.	By means of pertinent plans, every city is changing.
8. Availability of Secondary Data	Government papers, scholarly works, and urban statistics are all available for methodical assessment.	There is a wealth of documentation for each of the chosen towns.

(Source: Desai et al., 2017, Das, 2024, Gyawali et al., 2021, Moustaka et al., 2019)

The holy heritage cities of Varanasi, Mathura-Vrindavan, Puri, Dwarka, and Madurai witness the interconnection of traditions, and modernity since the ancient past.

Framework to carry out the case studies of the selected cities

The structure for the case studies of the selected pilgrimage cities. With a directed flow toward synthesis and comparative assessment, it displays the three main phases—Literature Review, Primary Survey, and Integration & Analysis—as well as their constituent parts.

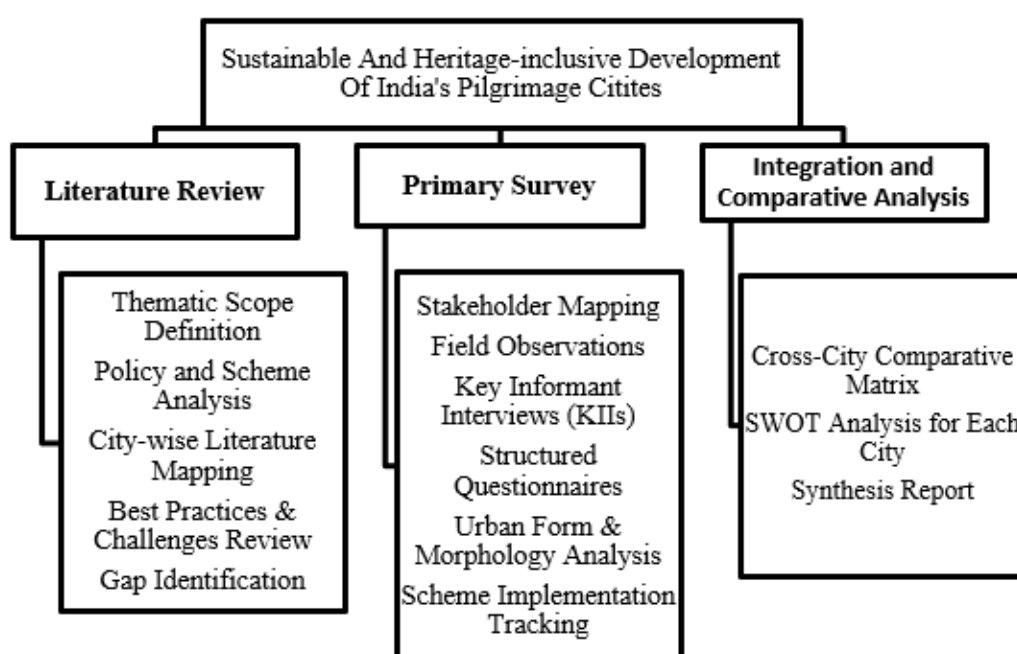


Figure 3.11 Framework to carry out the case studies of the selected cities (Source: Routh & Pandya, 2021, Pacheco Rocha et al., 2019, Mupfumira et al., 2024)

3.4.1 Dwarka

In Indian culture, the ancient city of Dwarka is particularly significant. Hindu scriptures states that following the Mahabharata War, Lord Krishna founded the city of Dwarka. Considered the legendary realm of Lord Krishna, Dwarka city has drawn interest from archaeologists, devotees and historians. It is thought to represent his celestial kingdom, where he rose to become a virtuous and enlightened ruler. Dwarka is portrayed in the Mahabharata epics as a thriving metropolis with exquisite palaces and architecture.

The notion of the lost city of Dwarka gained traction in the early 1900s when a number of researchers and tourists set out to discover its remnants. The discovery

of Dwarka's hints in ancient works, such as the Mahabharata and other holy writings, piqued his interest and motivated him to investigate this fabled city (Kataria, 2023).

Underwater architectural elements reveal important information about the city's architectural style, layout, and urban planning. The topography of the ancient city has been reconstructed with the aid of these finds, which have also shed light on the lifestyles of its residents.

The architecture of the Dwarka Lord temple is superb. The grandeur and devotion connected with Lord Krishna are reflected in its tall summits, elaborate carvings, and decorative pillars. The church's architecture preserves the city's rich history by fusing modern and ancient architectural elements (Gaur & Tripathi, 2005).

The city's history with Vaishnavism, the temple's exquisite architecture, and the festivals it celebrates all contribute to its spiritual appeal. Dwarka's vitality and variety are influenced by its cultural history, customs, and social and religious activities.

Dwarka, a heritage city located in the Indian state of Gujarat, is revered as one of the seven most ancient religious cities in India. Known as the legendary kingdom of Lord Krishna, Dwarka is an important pilgrimage site for Hindus. The city's historical and spiritual significance is highlighted by the Dwarkadhish Temple, a stunning example of Chalukya architecture with its elaborate carvings and towering spires. Dwarka's heritage is not only rooted in its religious traditions but also in its historical references in ancient texts and myths. The city is believed to have been submerged by the sea, a story that continues to fascinate historians and archaeologists. Today, Dwarka remains a vibrant center of faith and culture, drawing pilgrims and tourists alike to explore its temples, ghats, and the scenic confluence of the Gomti River with the Arabian Sea. Archaeological sites can be less affected by sustainable tourism methods include restricting the number of visitors, enforcing stringent rules for underwater investigation, and designating specific diving spots and water (Trivedi Joshi, 2022). Communities may guarantee the preservation of their cultural heritage by offering economic possibilities and taking part in tourist activities.

Works done under national schemes such as PRASAD includes development of Dwarka Haat, Children's Amusement Park, and Samudra Narayan, Rukshmani Temple, Railway Station lounge, Bus Station, Panchkui Island, Control salinity ingress, Tourist Facilitation Centre, Water harvesting system, Signage. HRIDAY allotted funds of 19.56 Crores for the city. Project undertaken include City-Level Transport Management Plan-controlled vehicular access to the delineated heritage area. Time-based management is to be introduced, city-level eco-friendly shuttle service, initiated a heritage walk in the old core area. Initiate a heritage walk in the old core area, rehabilitation Plan for Street Vendors by the Dwarka Municipality should prepare a street vendors rehabilitation plan - (Protection of Livelihood and Regulation of Street Vending Act, 2014). Cattle Nuisance Control Plan, landscape development and visitor friendly (Zalavadiya et al., 2022).



Figure 3.12 location map (Centre, 2016)



Figure 3.13 HRIDAY interventions (Kapadia, 2008)

As shown in fig. 3.11 and fig. 3.12, an integrated transport management plan that could ease the traffic flow is suggested. Rehabilitation plan for street vendors could solve the issues of pedestrians. A policy proposal for heritage awareness including walks, etc. Proposal for tourist facilitation centre under SCM. A city haat will be an economic generator for local craftsmanship. Installation of water harvesting systems for public use and modern signage proposal for easy access are suggested.

3.4.2 Banaras

Varanasi (latitude of 25°19'3.52" N and a longitude of 82°58'26.09' E), exists on the left side bank of the Ganga River, and popularly called Kashi or Banaras (R. P. B. K. S. and R. P. S. Singh, 2020). Banaras, also known as Varanasi, is one of the oldest continuously inhabited cities in the world and a major cultural and spiritual hub in India. Situated along the banks of the sacred Ganges River in the state of Uttar Pradesh, Banaras is renowned for its rich heritage, which includes ancient temples, ghats, and vibrant traditions. The city's spiritual essence is epitomized by the Kashi Vishwanath temple, dedicated to lord shiva, and the daily rituals and ceremonies performed on the ghats, such as the mesmerizing ganga aarti. Varanasi has been a center for learning and culture for centuries, attracting scholars, poets, and musicians. Its narrow lanes are lined with old buildings, each telling a story of the city's past. As a major pilgrimage destination, Banaras embodies a deep spiritual resonance and offers a unique blend of history, religion, and cultural vibrancy. The heritage zone as delineated in the Master Plan 2011 has been further incorporated in the ongoing Master Plan 2011-2031. Only a little over 2% of the total area is proposed under tourism and heritage zone (R. P. B. K. S. and R. P. S. Singh, 2020). The city covers an area of 1535 sq. km and has a population of 36 .76 crore. The administrative division is Allahabad.

Like this City of Light, it is a luminous creation. Few novels, in my opinion, can convey the spirit of a holy city as well as this one. -Huston Smith, Thomas J. Watson Religion professor at Syracuse University Shiva, the Lord of All, is said to have resided in Banaras, one of the oldest towns still in existence, from the beginning of time. Few locations in India are more firmly Hindu and representative of Hindu culture as this metropolis, where God is seen and imagined in countless ways (L, 2000). The author in her book elaborates about the essence of the sacred place and people in a simple language through the festivals, celebrations along the year in the localities.



Figure 3.14 city HRIDAY zones
(Kumar & Singh, 2017)

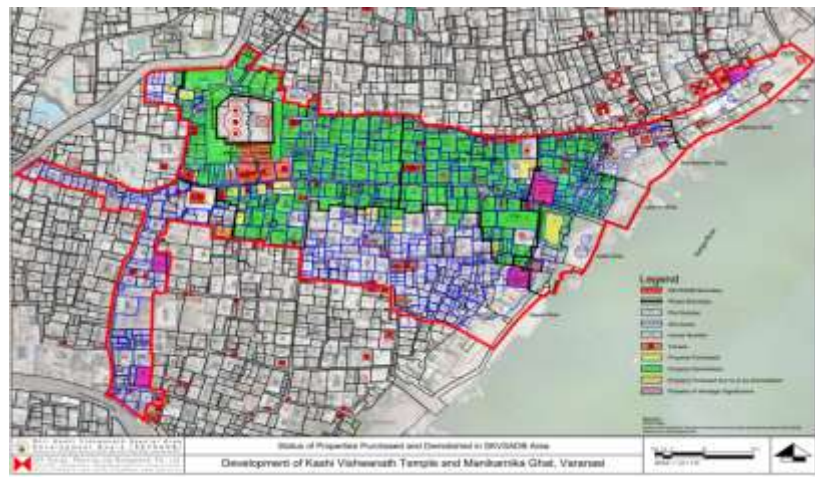


Figure 3.15 Kashi-Vishwanath development area
(VMC, 2014)

Tourist footfall and crowd control was not an issue a decade ago and people used the ghats, temples areas as per requirement. But as the floating population rose, it questioned the infrastructure, facilities and authorities for better provision of tourists.

As per locals, about five years back, demolition of more than 250 houses and a couple of temples were sacrificed for the Kashi-Vishwanath corridor. A bare minimum compensation was provided shifting the affected families from 40-room houses to 2-bhk compact apartments (Singh, 2009).

Whereas, works under the schemes includes- start of permanent jetties along the Ghats, construction of the five flyovers in the main heritage zones. Up-gradation of city town hall, construction of the ring road. The construction of a new area for dyeing and polishing of fabrics. These include development of pedestrian pathways, facade improvement, multi-level parking and solid waste management. In the Kashi-Vishwanath redevelopment works under the smart city mission, 450 houses, 5000 families dismantled for the Kashi Vishwanath corridor, were given compensation. Shivling and Nandi idols excavated are stored without tagging. Many were submerged in the well, buried underground -heritage negligence (MoUD & GoI, 2017). Heritage of Kashi is losing its glory. Trees were cut, without transplantation. Temple complex has no landscaped area. No comprehensive plan for ghat management by INTACH, restoration of palaces on only two ghats (Sinha. A, 2018). Under HRIDAY, 11 projects are proposed/implemented (total fund-89.31 crores). Up-gradation of heritage approach roads. A corridor presently proposed in Mathura-Vrindavan, but it needs to be more people friendly. Ring road proposal under AMRUT. Modification of heritage approach roads. People-friendly.

3.4.3 Puri

Puri is a coastal city in Odisha, India, renowned for its rich cultural heritage and religious significance. It's one of the four sacred pilgrimage sites for Hindus, known as the Char Dham. It is the Land of Jagannath, a holy city famous for Hindu religion. The Puri master plan has an area of 63.57sq.km. i.e. the urban agglomeration area, while the municipal area is 16.84 km² only, serving a population of 200,564 as per census 2011. Puri is a perfect blend of spirituality, culture, and natural beauty, making it a popular tourist destination. The heart of Puri, Jagannath, a 12th-century temple is dedicated to Lord Jagannath, Balabhadra, and Subhadra. Ratha Yatra is an annual chariot festival celebrating the deities, attracting millions of devotees. Puri boasts beautiful beaches offering stunning sunrises and sunsets. A holy city for Hindus, with a strong spiritual aura. It is known for Odissi dance, handicrafts, and delicious seafood.



Figure 3.16 location map of Puri, Odisha

Source: google maps



Figure 3.17 Jagannath Temple, Puri
Source: author

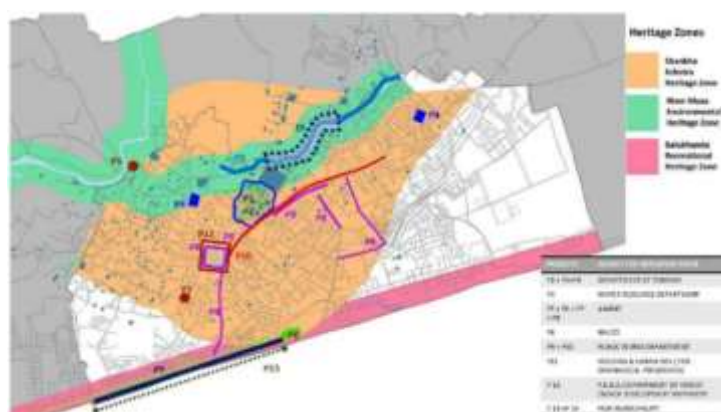


Figure 3.12 Selected Zones Under HRIDAY for Development

(Municipality, 2024) Issues, Works Done In Puri City



Figure 3.19

Narendra tank

No changing rooms
Negligence of heritage
Misuse of public spaces



Figure 3.20

Indrayumna Tank

Loss of heritage
Poor maintenance of public spaces. Poor landscape spaces
Misuse of public spaces



Figure 3.21 Bankimuhana sea beach

No waste management/ segregation/disposal system. No proper landscape development exists as mentioned in HRIDAY. Lack of coastal facilities and safety



Figure 3.22 Bada Danda street

Informal markets on roads/ pedestrians, Mixed traffic, Prone to roads accidents
Poor planning, Lack of dedicated parking spaces for shopping, Improper use of public spaces, Lack of public amenities such as toilets, Poor landscape development



Figure 3.23 River Musa

Construction materials are dumped in heritage site
Absence of Waste management
Polluted water
No landscape development
No restoration or edge development done



Figure 3.24 Tourist centre, source: author

Redevelopment project of the Odisha (2019), Shree Jagannath Temple Administration (SJTA) building redevelopment, 600-capacity Srimandir reception center, etc.(2308 cr.), Land Acquisition Charges/Re-habitation& Resettlement/ Road Improvement in and around Shree Jagannath Temple.

Source: (Chandan et al., 2023)

Augmentation of basic amenities and development of heritage and architecture scheme (ABADHA): - A state scheme, to cultivate the Jagannath temple of puri to world-famous heritage city. (2017). Aims to provide better and affordable facilities for pilgrims and tourists. Major projects by ABADHA (2021-22 budget 1087 cr.) (Abadha-Scheme @ Hrex.Org, 2023).

Puri Heritage Corridor Project: Shree Jagannatha Heritage Corridor (SJHC): Puri Lake development project, Up-gradation of Raghunandan library, Matha

development initiatives, Musa River revival plan, Jagannath Ballad Pilgrim Centre, Acharya Harihar Square development, Atharnala heritage development, Housing project, Shree setu plans, etc.

Table 3.6 Works done under the schemes

HRIDAY	AMRUT	PRASAD
Shankh Kshetra Heritage zone: Bada Danda1 Streetscape Project: visitor amenities, infrastructure development plan for Shree Jagannath Ballabh Garden, 17 crores for revitalisation of heritage zones. Landscape development at Bankimuhan: Environmental upgradation. River Musa Environmental Heritage: Protection and conservation of the catchment of river, Protection and preservation of the Sweet Water Zone, Conservation of heritage buildings including Atharanala, Pathar Pokhri, Conservation and landscape development of sacred water tanks, Balukhanda Recreational Zone: Improved Visitor amenities and Circulation, Environmental up gradation of buffer zone, Bankimuhan	Puri Municipality has developed four parks under AMRUT Project in the year 2021-22 & 2022-23. Recharge freshwater zones. Iconic city plan: heritage corridor, museum and parks. Renovate Gandhighat park ‘India Water Pitch-Pilot-Scale Start-up Challenge’ Parks at Dhipa Jaga, Baliapanda, Sarvodaya Nagar & Srikhetra Colony in Ward No.06,07,27, 28 respectively under Puri Municipality" Fountains at Subhas bose square and Harihar square	Renovate Bagala dharmsala Landscaping at Srigundicha temple and multilevel parking ITDC: nodal agency to implement projects failed to work.  Figure 3.25 Srigundicha temple images, source: author

(Arijeet Mishra, 2020)

Some of the issues identified were near heritage areas, water contamination, lack of visitor amenities, environment degradation, unorganized vehicular movement, negligence of heritage sites/ buildings, and misuse of public spaces. Development of streets under SCM through streetscape projects, revival of ponds/kunds done under HRIDAY, proposal for up-gradation of pedestrian environment under SCM, protection and conservation of river water under HRIDAY scheme.

3.4.4 Madurai

Madurai, the heart of Tamil Nadu, is a city steeped in history and culture. Renowned for the magnificent Meenakshi Amman Temple, a stunning architectural marvel dedicated to Goddess Parvati, it's a major pilgrimage site. This magnificent structure's foundation was established in the first century (Santhalingam, 2019). Despite being shattered by the attackers, the temple miraculously recovered its lost splendour. The city's rich heritage, vibrant festivals, and delicious cuisine make it a captivating destination for travelers seeking a blend of spirituality, tradition, and modern-day charm.

The magnificent Tirumalai Nayakkar Palace was situated southeast of the Meenakshi Amman temple, the palace was constructed in 1638 AD by King Tirumala Nayaka and combines Rajput and Italian architectural styles. The Madurai Mattuthavani Bus Stand is 10 km away from Yanaimalai, a protected site. The hill, which was inhabited by Jain monks during the Pandyan kingdom, gets its name from the Tamil words yaanai, which means elephant, and malai, which means hill. The Tamil Jain community regards the granite-rich hill as a holy site. Among the well-known ancient structures in and around Madurai, the monument's summit is home to caves that feature bas relief sculptures of Mahavira, Gomateshwara, and Tirthankaras (Viswanath, 2021). A historic city, in Tamil Nadu, city lies in the south bank of river Vaigai. It is second largest city in terms of area and the third largest in terms of population in the state (Vani, 2023). A shrinking city has posed fundamental challenges in the path of sustainable heritage tourism development.



Figure 3.26 location map (google maps)



Figure 3.27 scheme Interventions (Kundu et al., 2019)



Figure 3.28 SCM interventions (Ahmedabad Municipal Corporation, 2016)



Figure 3.29 interventions (Ahmedabad Municipal Corporation, 2016)

Table 3.7 Works done in Madurai

S. no.	Works done	Project Detail
1	Heritage Area Interventions	Heritage Area Improvement – Cultural centres (Temple Park, Pudhumandapam), Kunnathur chatram
2	Assured 24X7 electricity supply with significant improvement in sustainability	LED,Solar, Smart Grid, energy efficiency by implementing
3	Tourism related interventions	IT connectivity, PIS info system, web app, Installation of surveillance systems, emergency response systems
Works done under SCM		
4	Enhanced Mobility	Pedestrian Friendly Pathways, Encouragement of NMT, Non-vehicle streets/ zones
5	Built interventions	Bus Terminal Redevelopment - with MLCP and passenger/tourist facilities, Infrastructure for differently abled
6	Core Infrastructure	Rainwater Harvesting, 24x7 Water Supply, Storm water drains and standard road levels
7	Social Infrastructure	School -Smart Classes
8	Vaigai River front Development	recreational facilities, Parks, bicycle tracks, Plazas, Food Zones, etc.
AMRUT Works done		
1	Mullai Periyar water supply	Construction of Head works and laying of Raw Water Pumping main from Lower Camp to WTP at Pannaipatti. Design and construction of 125 MLD WTP and SCADA arrangements, Laying of Clear Water Transmission Main from WTP at Pannaipatti to Madurai, Laying of Feeder Mains Construction of Service Reservoirs. Core Construction of Distribution Network System (DI & HDPE), House Service Connections & Instrumentation.
2	WTP	Head works, Raw Water Carrying Main, Clear Water Carrying Main, Feeder Main and Service Reservoirs. Other works in progress: Proposed Tamil Nadu Urban Flagship, Investment Program (Tranche 2) – Water Supply System in Madurai City

(Madurai Municipal Corporation, 2018)

Building clearance around heritage site, Use of signage, uniform facade controls for heritage core, Pedestrianization and promoting NMVs, temple lighting proposals, highlighting the elements of temple, Revitalization of Meenakshi temple surrounds, Illumination of fort walls, Link of heritage route to heritage sites (Stage & Number, 2019). Issues identified in Madurai works are Loss of heritage, slow progress of schemes, Pollution, no access to river due to retaining walls, shrink of river width, Poor waste management, Lack of maintenance of water bodies leading to growing of weeds, Traffic congestion due to old narrow streets, Commercialization leading to lack of green spaces, Modern construction doesn't go in sync with the old heritage. There is a strong and immediate need to create heritage awareness in the city. Maintenance committees for water bodies and heritage sites, Construction restrictions for floodplains/catchment area are required to enforce. Enforcing tourist movement restrictions over the heritage areas, highly dense commercial areas.

3.4.5 Pilot Case Study: Mathura Vrindavan

Mathura and Vrindavan, twin heritage cities in the Indian state of Uttar Pradesh, hold immense religious and cultural significance as the birthplace and childhood home of Lord Krishna. Mathura, renowned for its ancient temples and sacred sites, is the center of Krishna worship, featuring landmarks like the Krishna Janmabhoomi Temple, believed to be the exact birthplace of the deity. Vrindavan, located nearby, is famous for its numerous temples, including the iconic Banke Bihari Temple and ISKCON Temple, and its association with the playful and divine pastimes of Krishna. The cities are vibrant with the celebration of various festivals, particularly Janmashtami and Holi, which attract devotees from around the world. The rich spiritual heritage of Mathura and Vrindavan is also reflected in their ancient scriptures, classical music, and traditional arts, making them timeless centers of devotion and cultural expression. Tourist influx has increased to 2.3 crores in 2022 in Mathura Vrindavan and expected to grow to 6 crores till 2041 (Mathura-Population @ Www.Censusindia2011.Com, 2023). As per HRIDAY, the heritage area is divided into six zones and are given in figure 27. Works done in zone 1 i.e. Krishna Janmabhoomi precinct are street upgradation, façade renovation, infrastructure development in Krishna Janmabhoomi precinct. After the execution of works there are still some issues in the zone such as pedestrian spaces not used by pedestrians, park hoarding not in lines of heritage design, and the city is overpopulated with

monkeys, dogs, and cattle, variation of the facade of surrounding shops and the temple, dirty water of Potra Kund, physical infrastructure falls inadequately short of tourist influx, and absence of professional crowd management to safeguard historic properties. Shaded seating areas provided around Potra kund-HRIDAY success, Heritage-based hoardings to be put up-HRIDAY, and few monkeys have been caught by the authorities. Zone 2 is Chatta bazaar area. Surrounding areas are not developed based on heritage-HRIDAY, water treatment proposal required for maintenance of kund water-AMRUT, up-gradation of infrastructure required.



Figure 3.30 Mathura Vrindavan location map (MATHURA-VRINDAVAN-MASTER-PLAN-2021-PART1.PDF, 2023.)



Figure 3.31 Area prioritization, zones **Figure 3.32 Krishna Janmabhoomi selected for development** source: precinct source: author
(MATHURA HRIDAY WORKS @ WWW.DPC.CO.IN, 2023)

Shortfall in zone 2 are informal markets, no proper pedestrian spaces, Irregular façade, narrow streets – lack tourist amenities, insufficient space for motorised vehicles. Congested markets leading unhygienic living, encroachments in market spaces, irregular streets lead to accidents, facade is not uniform-HRIDAY, lack of space for pedestrians. Zone 3 which is the Vishram ghat saw poor works for

redevelopment. While a lot of challenges were there to resolve. A network of narrow and congested streets, unorganized spaces for seating, ghats are poorly maintained. Streets need to be renovated immediately, haphazard planning of spaces, no designated seating space, widening for entrance or managing low tourist allowance at the entrance to resist overcrowding. In Shiv-tal Kund, polluted water of Kund, a city drain has been diverted towards this kund by the break opening of one side wall of the kund. Lack of maintenance from authorities, unhygienic living conditions will lead to diseases, open drains polluting kund water. A local authority named Braj Foundation has worked for redevelopment of kunds and abundant areas. Braj Foundation's Effort include de-siltation the kund and removed plastic bags and other garbage, silt was removed, and repaired the back wall to stop the inflow of dirty drain water into this kund. Four major chowks were there in the zone 5. Rampant development on edges of the chowks, no clear identity, lack of street furniture, lack of waste management. Redevelopment of four chowks, edge development with guidelines and proper waste disposal required. Zone 6 saw issues like poor infrastructure, no maintenance of heritage structures, infrastructure to be planned as floating pilgrims, repellent smell in riverside tourist areas, and loudspeakers running at all hours (Mathura HRIDAY Works @ [Www.Dpc.Co.In](http://www.Dpc.Co.In), 2023). Area needs immediate action on infrastructure-HRIDAY, heritage management institutions required-HRIDAY, absence of Cleaning and river maintenance-AMRUT, sound regulation for noise control, cow shelters funded by GoI, and Rs.249 lakh spent on CCTV cameras-SCM. Other than the mentioned zones, the city has many other challenges to resolve such as no digital traffic management system, and lack of street furniture, lack of parking spaces, unorganized parking and poor funds for parking. Poor infrastructure of school developed, no development based on heritage and poor building quality is seen. There is immediate need for digital traffic regulation required, newer development shall be in line with the heritage, edge development regulation guidelines to be proposed, development of infrastructure, renovation of construction style based on heritage-HRIDAY, up-gradation required for development. Interventions for requirement of proper parking space under SCM, proposed parking doesn't go with heritage style HRIDAY and fundraising interventions required.



Figure 3.33 a) zone 1- Krishna Janmbhoomi interventions



b) interventions in Potra kund



Figure 3.34 zone 2-Existing chatta bazaar area



Figure 3.35 13 zone 3-existing condition at Vishram ghat



Figure 3.36 zone 4- shiv tal kund existing condition



Figure 3.37 zone 5- Selected chowks for development



Figure 3.38 zone 6- Vrindavan Parikrama Marg



Figure 3.39 14 garbage dump at heritage site



Figure 3.40 Development of multi-level car parking at site

(Kapoor et al., 2022) (author)

"Heritage corridor" and a tourism hub for the Mathura-Vrindavan belt. (5 Acres, 5000 devotees 800 now)-YEIDA. Existing temple structure intact. Government's Vision is to form a tourist circuit (parikrama marg, museum, meditation, handicraft mart, Chokhi Dhani, etc.) integrating the corridor with Jewar Airport and film city. It aims to solve Incidents of death due to overcrowding, accommodating large number of devotees and generation of economy.

Public protested the proposal as they fear losing their residences and shops, despite the compensation and relocation promised by Proposal. They feel it's for the Hinduism promotional benefits and VIP entry and stay. Kashi Vishwanath corridor has left local people and shopkeepers unhappy. Conservation experts

have named the Ujjain Mahakaal corridor as Disneyland, ignoring the intense heritage of the ancient Mahakaal temple.

Vrindavan Chandrodaya temple: The project is intended to expand the services for the development of the Braj region through initiatives such as providing training and employment opportunities to economically weaker sections of society. Supporting organic farming, handicrafts, and cottage industries. Restoring river Yamuna and rejuvenating the important sites of Vrindavan that signify Braj heritage. The temple has been planned by ISKCON Bangalore. The planned effort includes the temple rising to a height of about 700 feet (210 meters) or 70 floors) and a built-up area of 540,000 sq. ft. The architecture of Chandrodaya Temple (under construction) and prem mandir do not match the heritage of the city. These new temples including ISKON have become tourist spots more than religious places. As per the local guide a lot of people visit these newly constructed temples on the outskirts of Vrindavan and not the ancient temples (5b884992a1a6e993140287ef37a84869c8841a6f @ Vrindavantoday.In, 2023).



Figure 3.41 Kashi Vishwanath Corridor **Figure 3.42 Chandrodaya Temple**
(R. P. Singh & Rana, 2017)

CHAPTER 4. ANALYSIS

4. Analysis

4.1 Introduction

This section presents a detailed analysis of the research findings, focusing on the key results derived from the survey conducted. The analysis aims to elucidate significant patterns, correlations, and trends observed during the study, providing a comprehensive understanding of the underlying phenomena. By examining these results through various analytical lenses, we seek to offer valuable insights and draw meaningful conclusions that contribute to the broader field of inquiry. Further various potential recommendations have been provided in the latter for better sustainable and heritage inclusive practices. This discussion will also highlight the implications of our findings, addressing their relevance and potential impact on future research and practical applications.

Methodology and justification for analysis:

- Spatial mapping of heritage sites through satellite images, geotagging and AutoCAD.
- SWOT Analysis- carried out for every city to determine its heritage management and implementation strengths, weaknesses, opportunities, and dangers.
- Stakeholder Perception- evaluating public awareness, contentment, local issues, project execution progress, gaps, needs, and engagement in heritage-led sustainable development through the use of Likert scale surveys and content analysis of interviews.
- Comparative Case Study Analysis- Five cities were cross-analyzed to find best practices, policy gaps, and repeatable models.
- Comparing the ground work to paper works of the schemes.
- Using factor analysis to get to the outcome of primary survey of cities.

4.2 Progress in Mathura Vrindavan

Under state SCM, the integrated development plan is being undertaken which costs of Rs.110 crores. Works done are integrated traffic management system (ITMS),

costs about 38.54 crores, multilevel parking and smart office. Pedestrian pathways are constructed at Vrindavan Parikrama Marg, under HRIDAY. Vrindavan zonal works consists civil, furniture and electricity. Smart college works for Hazarimal Somani Inter college, street lighting, composite schools, renovation works, surya namaskar installation, redevelopment and revitalization of Vrindavan Parikrama marg. Under HRIDAY, 18 crores worth of projects have been approved until 2019. Rejuvenation of historic Vishram ghat, revitalization of historic Chatta Bazaar. facade lighting at Potra Kund and installation of street furniture etc are few works under HRIDAY zones.



Figure 4.1 Existing condition of college (Author)



Figure 4.2 ITMS installed at chowks (Anandam, 2020)

AMRUT works in Mathura Vrindavan include construction of sewer lines, toilets, up-gradation and renovation of STPs. Tourist toilets constructed under HRIDAY plan. Construction of entry gate near mandi samti at Vrindavan, Beautification of Krishnapuri tiraha. As per sewage plan, **sewer line, sump well construction** (near Masani M.P.S.), sewer house joining. In Vrindavan, city kitchen and bathroom's grey water connection to sewer plan is completed, **installation of CCTV cameras** at Krishna Janmsthan, Vrindavan Parikrama Marg and Vishram ghat. Digital boards, E-Rickshaws are popular here. Ministry of Tourism has announced the success of the PRASAD Scheme in upgrading the Mathura-Vrindavan Circuit, enhancing the tourism attractiveness of Krishna Sarovar, Jai Kund, Chandra Sarovar and Akbar Ka Taal. The project mitigated the structural gaps in the core tourism footprint areas.

Table 4.8 AMRUT Scheme Projects and Status

Projects	Work status	Remarks
Integrated traffic management system	80% complete	SCM 2022, 18/20 are done
Redevelopment and revitalization of Vrindavan Parikrama Marg	Completed	HRIDAY
HRIDAY works	46% progress	
Mathura sewage treatment plant construction and related works	Completed	AMRUT
VAMS works at 6 locations	5 completed	SCM
Reconstitution of Peyjal planning with Overhead tank (1650 km Chandrapuri, 2500 km Krishna Bihar)	Completed	AMRUT
Underground reservoir	Completed	

(Goverdhan & Barsana, 2020)

The table shows the progress of ongoing and completed works under AMRUT.

4.3 Questionnaire Preparation Criteria

The preparation of the questionnaire consisted of several steps for the survey. First a background check is mandatory to understand the various stakeholders who will have direct connection with the development works. After a thorough study of the schemes and cities, some common indicators are identified for development. The major users or beneficiaries of the works will be residents, tourists and for administration purpose government officials. Considering the targets and indicators of SDG 11 and taking heritage inclusive development parameters, 10-12 questions have been framed for each category i.e. residents, tourists and government officials. The questionnaires have been attached in the annexures.

4.4 Survey Sample Size Calculations

A commonly used formula to determine sample size is the Cochran formula for precision with large populations.

$$n = (z^2 * p * q) / e^2$$

Where: n is the sample size, z is the z-score corresponding to the desired level of confidence, p is the estimated proportion of the population with the characteristic of interest, q is 1-p, e is the desired level of precision

Assuming a 95% level of confidence, and a margin of error of 5%, the sample size can be calculated as follows:

$$N = (1.96^2 * 0.5 * 0.5) / 0.05^2 = 384.16$$

The questionnaire prepared is based on the objectives laid by HRIDAY, AMRUT, PRASHAD, AND SMART CITY MISSION.

Survey has been conducted on a sample size of about 300 people at Varanasi, Dwarka, Puri, Madurai and Mathura Vrindavan comprising tourists, residents, and Govt. officials, and the educated class.

The survey conducted shows lack of awareness and dissatisfaction among the tourists and residents, although the govt officials are happy with the progress of the above schemes.

A survey was conducted across five diverse cities – Puri, Dwarka, Madurai, Varanasi, Mathura-Vrindavan, which explored the impact and range of services and facilities developed in these cities. The assessment of impact is done by characterizing the results in five categories which are, 1. Strongly agree, 2. Agree, 3. Neutral, 4. Disagree, 5. Strongly Disagree.

In Mathura-Vrindavan highest level of satisfaction among the people can be seen in Restoration, Willingness to change, Tourist Influx and Public Participation. While in Varanasi, people are more satisfied with development in Smart Solutions, Public transport, Impactful schemes, and Tourist Influx. Development in Improved Services and Public Participation can also be seen in Puri. In Madurai Tourist Influx, Public Participation, Smart Solutions and public transport are the more successful schemes. While in Dwarka, satisfactory results to achieve development cannot be seen.

The percentage of people with neutral replies on the impact was greater in Puri than other cities. In Dwarka some percentage of people with neutral views can was also recorded.

While the percentage of people who do not agree with the any development done with these schemes were majorly from Puri and Varanasi. In Varanasi, schemes have not achieved a great impact on the people in Public Participation sector. While in Puri, schemes regarding Smart solutions and impactful schemes were not considered successful among people. ABHADA is the most influential scheme in Puri.

4.5 Survey Results

Varanasi residents' response shows good progress in schemes impact, smart solutions and transport. Progress is seen under restoration, skill development and services. Mathura-Vrindavan shows high tourist influx, resident's willingness to change, good amount of restoration works is done. Some of them believe in poor performance in implementation and increase in pollution. Puri residents strongly agree with the improved services and public transport and the impactful scheme is ABADHA. Responses are divided in Dwarka for the impact and progress, overall, less impact is seen. Public transport and high tourist influx have grown in Madurai. The concerned authorities worked in seclusion, rather than focussing on the broader urban landscape. Beautification plan demolishes oldest neighbourhoods that accommodated locals (Chandan & Kumar, 2019).

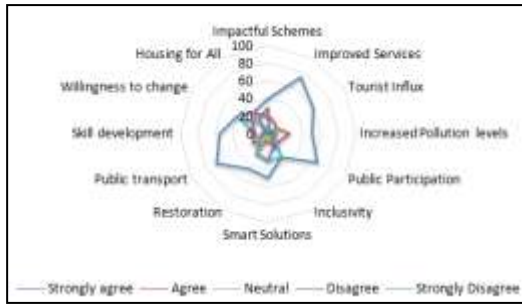


Figure 4.3 Puri resident response

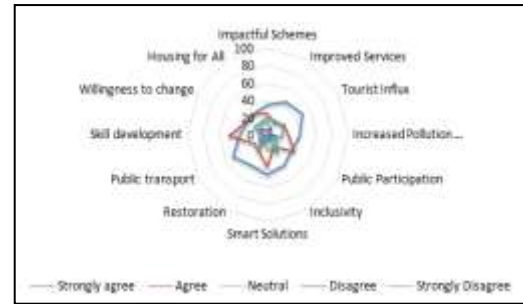


Figure 4.4 Dwarka resident response

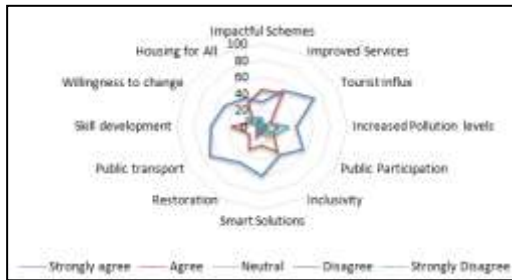


Figure 4.5 Madurai resident response

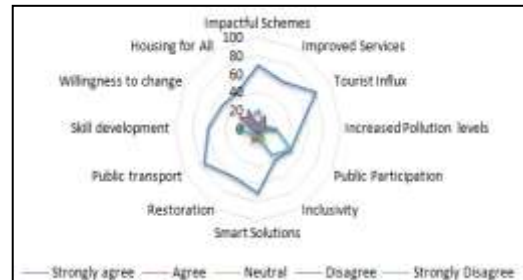


Figure 4.6 Varanasi resident response

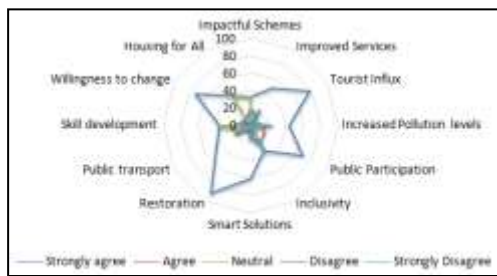


Figure 4.7 Mathura-Vrindavan resident response

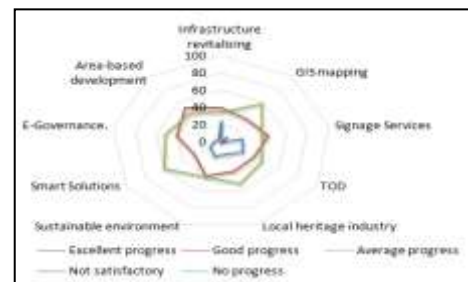


Figure 4.8 Puri city government official response

The charts show the response of residents towards tourism facilities and infrastructure of the cities and their satisfaction.

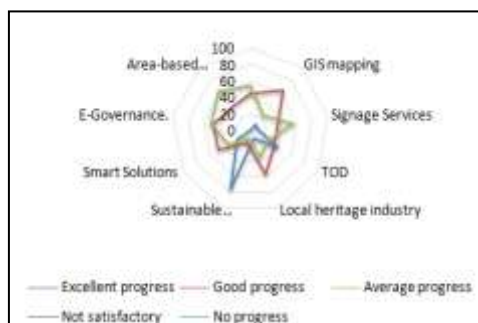


Figure 4.9 Dwarka city government official response



Figure 4.10 Madurai city government official response

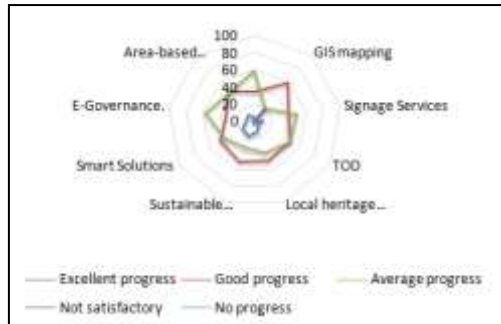


Figure 4.11 Varanasi government official response



Figure 4.12 Mathura-Vrindavan Government official response

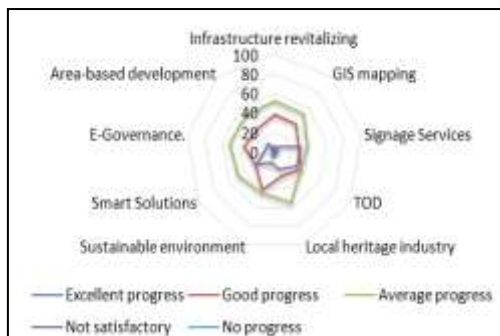


Figure 4.13 Puri tourist response

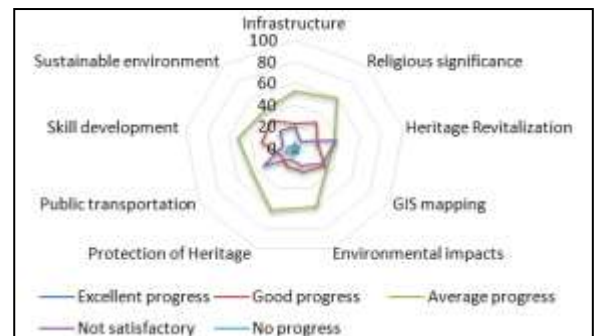


Figure 4.14 Dwarka tourist response

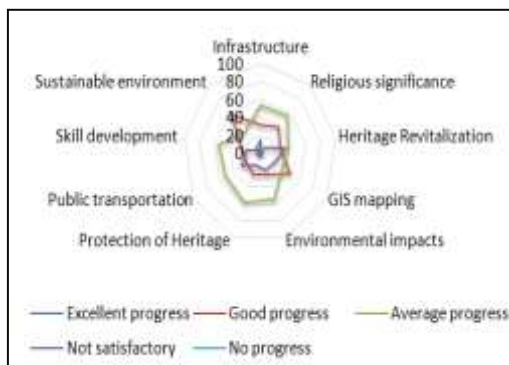


Figure 4.15 Madurai tourist response

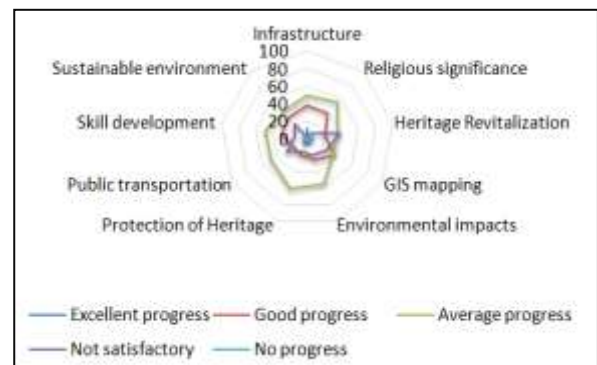


Figure 4.16 Varanasi tourist response

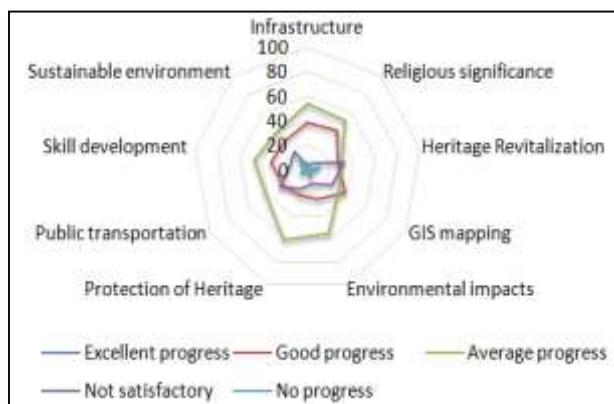


Figure 4.17 Mathura-Vrindavan tourist response

Good progress is seen in area-based development, GIS mapping in Puri city. Officials from Dwarka show progress in Transit-oriented development (TOD) and sustainability. Madurai shows average progress in most of the development aspects. Varanasi shows good progress in GIS mapping, smart solutions etc. Mathura-Vrindavan good progress in restoration works. Tourists from Puri reveal good progress in most of the aspects. Average and poor work is experienced by tourists in Dwarka. Madurai is on the path to development but average response mostly. Varanasi and Mathura-Vrindavan showed mixed responses.

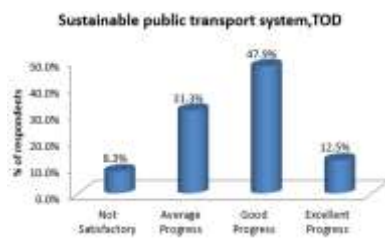


Figure 4.18 Sustainable transport system

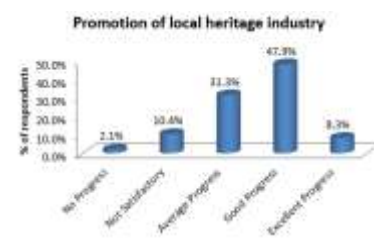


Figure 4.19 Promotion of local heritage



Figure 4.20 GIS mapping, heritage-management plan revitalizing service

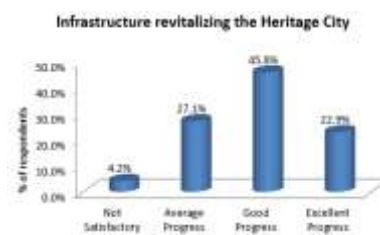


Figure 4.21 Infrastructure revitalizing the heritage city



Figure 4.22 IEC, CCTV cameras, digital display, signage, services

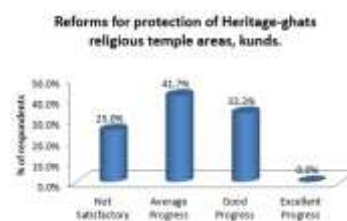


Figure 4.23 Reforms for protection of heritage ghats religious temple areas, kunds

Infrastructure development is seen in all cities. A good number of officials consider good improvement in CCTV, digital display, services and heritage protection. Challenges still exists in transport and heritage promotion among other indicators.

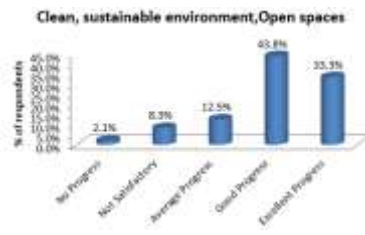


Figure 4.24 clean, sustainable environment and open spaces quality



Figure 4.25 Smart solutions

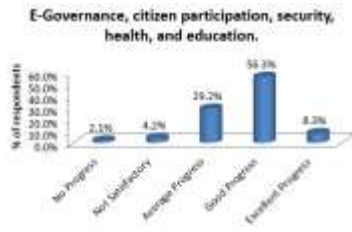


Figure 4.26 Governance, participation, security and education

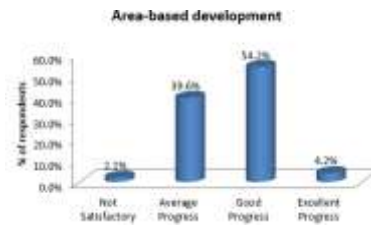


Figure 4.27 Area based development

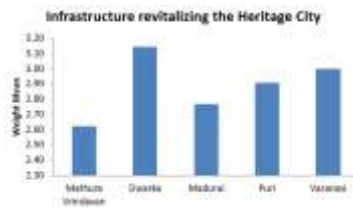


Figure 4.28 Weight mean for Infrastructure revitalizing the heritage city



Figure 4.29 Weight mean for GIS mapping

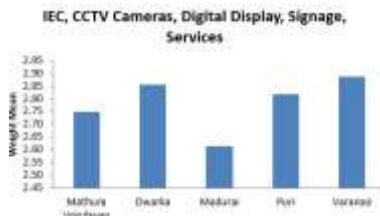


Figure 4.3015 weight mean for IEC, CCTV cameras, digital display

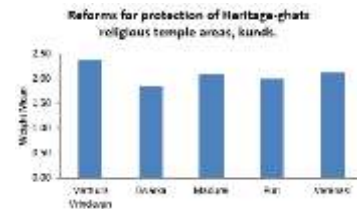


Figure 4.31 heritage protection

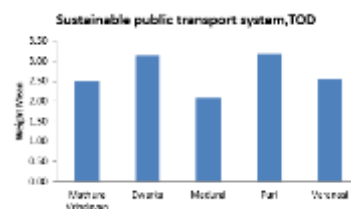


Figure 4.32 sustainable transport system

A small number of officials consider a clean and green environment. Most of the officials believes in improvement in government administration and citizen. More than half of the officials believe in area-based development.

Table 4.9 Weight-mean for various development parameters

		Ranks					
Name		N	Mean Rank	Weight Mean	Kruskal Wallis	df	p-value
Infrastructure revitalizing the Heritage City	Mathura Vrindavan	8	19.94	2.63	1.919	4	.751
	Dwarka	7	28.71	3.14			
	Madurai	13	23.69	2.77			
	Puri	11	24.64	2.91			
	Varanasi	9	26.28	3.00			
GIS mapping. Heritage-Management Plan, Revitalization Service	Mathura Vrindavan	8	33.00	2.88	9.104	4	.059
	Dwarka	7	29.71	2.71			
	Madurai	13	17.00	1.85			
	Puri	11	22.91	2.27			
	Varanasi	9	25.67	2.44			
IEC, CCTV Cameras, Digital Display, Signage, Services	Mathura Vrindavan	8	23.94	2.75	1.156	4	.885
	Dwarka	7	25.36	2.86			
	Madurai	13	21.81	2.62			
	Puri	11	25.05	2.82			
	Varanasi	9	27.56	2.89			
Reforms for protection of Heritage-ghats religious temple areas, kunds.	Mathura Vrindavan	8	29.50	2.38	1.964	4	.742
	Dwarka	7	20.50	1.86			
	Madurai	13	24.50	2.08			
	Puri	11	23.05	2.00			
	Varanasi	9	24.94	2.11			
Sustainable public transport system, TOD	Mathura Vrindavan	8	21.50	2.50	12.875	4	.012*
	Dwarka	7	32.43	3.14			
	Madurai	13	16.38	2.08			
	Puri	11	32.82	3.18			
	Varanasi	9	22.56	2.56			
Promotion of local heritage industry	Mathura Vrindavan	8	25.88	2.63	14.216	4	.007**
	Dwarka	7	36.07	3.29			
	Madurai	13	15.00	1.77			
	Puri	11	29.05	2.82			
	Varanasi	9	22.44	2.44			
Clean, sustainable environment, Open spaces	Mathura Vrindavan	8	28.94	3.38	26.344	4	.0001**
	Dwarka	7	25.36	3.14			
	Madurai	13	9.50	1.77			
	Puri	11	35.45	3.73			
	Varanasi	9	28.17	3.33			

Ranks are allotted based on the frequency of repetition of mean.

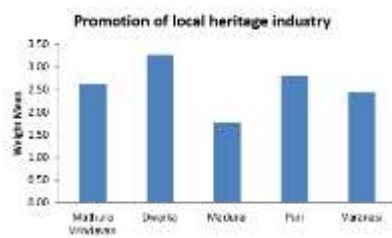


Figure 4.33 promotion of local heritage

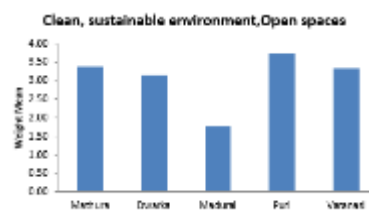


Figure 4.34 clean open spaces



Figure 4.35 smart solutions

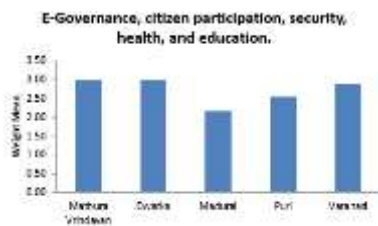


Figure 4.36 Governance, participation, security and education

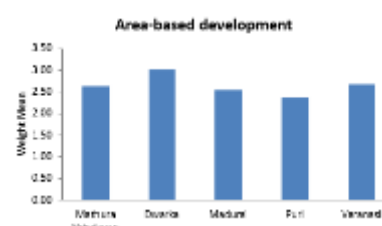


Figure 4.37 ABD

Table 4.10 weight-mean for various development parameters

Ranks							
Name		N	Mean Rank	Weight Mean	Kruskal Wallis	df	p-value
'Smart' Solutions	Mathura Vrindavan	8	20.50	2.50	7.173	4	.127
	Dwarka	7	27.21	2.86			
	Madurai	13	18.38	2.31			
	Puri	11	30.00	3.00			
	Varanasi	9	28.06	2.89			
E-Governance, citizen participation, security, health, and education.	Mathura Vrindavan	8	29.75	3.00	7.762	4	.101
	Dwarka	7	30.29	3.00			
	Madurai	13	18.00	2.15			
	Puri	11	21.68	2.55			
	Varanasi	9	28.17	2.89			
Area-based development	Mathura Vrindavan	8	25.06	2.63	4.180	4	.382
	Dwarka	7	31.07	3.00			
	Madurai	13	24.08	2.54			
	Puri	11	19.18	2.36			
	Varanasi	9	26.00	2.67			

Table 4.11 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.581
Bartlett's Test of Sphericity	Chi-Square	70.225
	df	45
	p-value	.009**

Table 4.12 Communalities

	Initial	Extraction
Infrastructure revitalizing the Heritage City	1.000	.867
GIS mapping. Heritage- Management Plan, Revitalization Service	1.000	.743
IEC, CCTV Cameras, Digital Display, Signage, Services	1.000	.723
Reforms for protection of Heritage-ghats religious temple areas, kunds.	1.000	.656
Sustainable public transport system,TOD	1.000	.733
Promotion of local heritage industry	1.000	.729
Clean, sustainable environment,Open spaces	1.000	.721
‘Smart’ Solutions	1.000	.788
E-Governance, citizen participation, security, health, and education.	1.000	.748
Area-based development	1.000	.687
Extraction Method: Principal Component Analysis.		

Table 4.13 Rotated Component Matrix

	Component				
	1	2	3	4	5
Promotion of local heritage industry	.785	-	-	-	-
Clean, sustainable environment,Open spaces	.722	-	-	-	-
GIS mapping. Heritage- Management Plan,	.635	-	-	-	-

Revitalization Service			.403		
‘Smart’ Solutions	-	.864	-	-	-
Sustainable public transport system, TOD	.434	.656	-		-
IEC, CCTV Cameras, Digital Display, Signage, Services	-	-	.819	-	
Reforms for protection of Heritage-ghats religious temple areas, kunds.	-	-	.702	-	-
E-Governance, citizen participation, security, health, and education.	-	-	-	.781	-
Area-based development	-	-	-	.773	
Infrastructure revitalizing the Heritage City	-	-	-	-	.921
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					

Table 4.14 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.146	21.455	21.455	2.146	21.455	21.455	1.793	17.934	17.934
2	1.851	18.513	39.969	1.851	18.513	39.969	1.571	15.709	33.643
3	1.311	13.112	53.081	1.311	13.112	53.081	1.557	15.574	49.217
4	1.080	10.798	63.879	1.080	10.798	63.879	1.326	13.262	62.479
5	1.006	10.065	73.944	1.006	10.065	73.944	1.147	11.465	73.944
6	.714	7.138	81.082						
7	.559	5.588	86.670						
8	.519	5.192	91.861						
9	.410	4.103	95.964						
10	.404	4.036	100.000						
Extraction Method: Principal Component Analysis.									

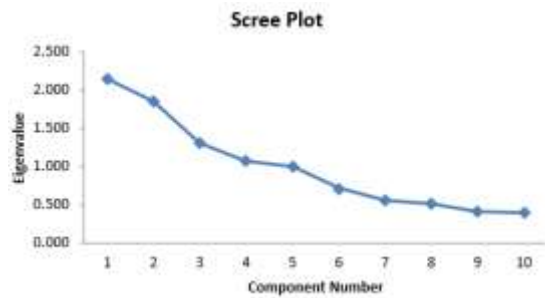


Figure 4.38 scree plot graph

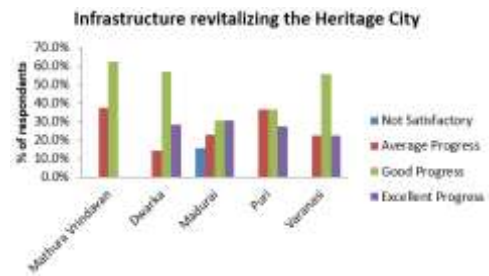


Figure 4.39 infrastructure revitalizes heritage city

Table 4.15 Statistical Measure of Response

		Name					Total	Chi-Square	p-value
		Mathura Vrindavan	Dwarka	Madurai	Puri	Varanasi			
Infrastructure revitalizing the Heritage City	Not Satisfactory	0	0	2	0	0	2	10.732	.552
		0.0%	0.0%	15.4%	0.0%	0.0%	4.2%		
	Average Progress	3	1	3	4	2	13		
		37.5%	14.3%	23.1%	36.4%	22.2%	27.1%		
	Good Progress	5	4	4	4	5	22		
		62.5%	57.1%	30.8%	36.4%	55.6%	45.8%		
	Excellent Progress	0	2	4	3	2	11		
		0.0%	28.6%	30.8%	27.3%	22.2%	22.9%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
GIS mapping, Heritage-Management Plan, Revitalization Service	Not Satisfactory	0	0	6	1	0	7	20.884	.052
		0.0%	0.0%	46.2%	9.1%	0.0%	14.6%		
	Average Progress	2	3	3	6	5	19		
		25.0%	42.9%	23.1%	54.5%	55.6%	39.6%		
	Good Progress	5	3	4	4	4	20		
		62.5%	42.9%	30.8%	36.4%	44.4%	41.7%		
	Excellent Progress	1	1	0	0	0	2		
		12.5%	14.3%	0.0%	0.0%	0.0%	4.2%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
IEC, CCTV Cameras, Digital Display, Signage, Services	Not Satisfactory	0	0	0	0	1	1	10.438	.578
		0.0%	0.0%	0.0%	0.0%	11.1%	2.1%		
	Average Progress	3	3	5	4	1	16		
		37.5%	42.9%	38.5%	36.4%	11.1%	33.3%		
	Good Progress	4	2	8	5	5	24		
		50.0%	28.6%	61.5%	45.5%	55.6%	50.0%		
	Excellent Progress	1	2	0	2	2	7		
		12.5%	28.6%	0.0%	18.2%	22.2%	14.6%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Reforms for protection of Heritage-ghats religious temple areas, kunds.	Not Satisfactory	1	2	4	3	2	12	3.272	.916
		12.5%	28.6%	30.8%	27.3%	22.2%	25.0%		
	Average Progress	3	4	4	5	4	20		
		37.5%	57.1%	30.8%	45.5%	44.4%	41.7%		
	Good Progress	4	1	5	3	3	16		
		50.0%	14.3%	38.5%	27.3%	33.3%	33.3%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

Sustainable public transport system, TOD	Not Satisfactory	0	0	4	0	0	4	24.123	.020*
		0.0%	0.0%	30.8%	0.0%	0.0%	8.3%		
	Average Progress	4	1	4	2	4	15		
		50.0%	14.3%	30.8%	18.2%	44.4%	31.3%		
	Good Progress	4	4	5	5	5	23		
		50.0%	57.1%	38.5%	45.5%	55.6%	47.9%		
	Excellent Progress	0	2	0	4	0	6		
		0.0%	28.6%	0.0%	36.4%	0.0%	12.5%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Promotion of local heritage industry	No Progress	0	0	1	0	0	1	33.233	.007*
		0.0%	0.0%	7.7%	0.0%	0.0%	2.1%		
	Not Satisfactory	0	0	5	0	0	5		
		0.0%	0.0%	38.5%	0.0%	0.0%	10.4%		
	Average Progress	3	1	3	3	5	15		
		37.5%	14.3%	23.1%	27.3%	55.6%	31.3%		
	Good Progress	5	3	4	7	4	23		
		62.5%	42.9%	30.8%	63.6%	44.4%	47.9%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Clean, sustainable environment, Open spaces	No Progress	0	0	1	0	0	1	37.496	.002*
		0.0%	0.0%	7.7%	0.0%	0.0%	2.1%		
	Not Satisfactory	0	0	4	0	0	4		
		0.0%	0.0%	30.8%	0.0%	0.0%	8.3%		
	Average Progress	0	1	5	0	0	6		
		0.0%	14.3%	38.5%	0.0%	0.0%	12.5%		
	Good Progress	5	4	3	3	6	21		
		62.5%	57.1%	23.1%	27.3%	66.7%	43.8%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
'Smart' Solutions	Not Satisfactory	0	0	2	0	0	2	11.337	.500
		0.0%	0.0%	15.4%	0.0%	0.0%	4.2%		
	Average Progress	4	2	5	2	2	15		
		50.0%	28.6%	38.5%	18.2%	22.2%	31.3%		
	Good Progress	4	4	6	7	6	27		
		50.0%	57.1%	46.2%	63.6%	66.7%	56.3%		
	Excellent Progress	0	1	0	2	1	4		
		0.0%	14.3%	0.0%	18.2%	11.1%	8.3%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
E-Governance, citizen	No Progress	0	0	1	0	0	1	15.622	.480
		0.0%	0.0%	7.7%	0.0%	0.0%	2.1%		

participation, security, health, and education.	Not Satisfactory	0	0	2	0	0	2		
		0.0%	0.0%	15.4%	0.0%	0.0%	4.2%		
	Average Progress	2	1	4	5	2	14		
		25.0%	14.3%	30.8%	45.5%	22.2%	29.2%		
	Good Progress	4	5	6	6	6	27		
		50.0%	71.4%	46.2%	54.5%	66.7%	56.3%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Area-based development	Not Satisfactory	0	0	1	0	0	1	17.883	.119
		0.0%	0.0%	7.7%	0.0%	0.0%	2.1%		
	Average Progress	3	2	4	7	3	19		
		37.5%	28.6%	30.8%	63.6%	33.3%	39.6%		
	Good Progress	5	3	8	4	6	26		
		62.5%	42.9%	61.5%	36.4%	66.7%	54.2%		
	Excellent Progress	0	2	0	0	0	2		
		0.0%	28.6%	0.0%	0.0%	0.0%	4.2%		
Total		8	7	13	11	9	48		
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		



Figure 4.40 GIS mapping

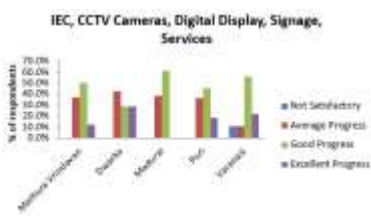


Figure 4.41 IES, CCTV

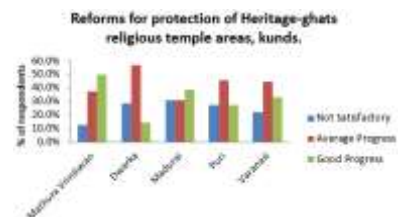


Figure 4.42 Reforms for protection of Heritage ghats

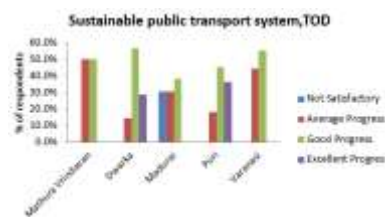


Figure 4.43 TOD

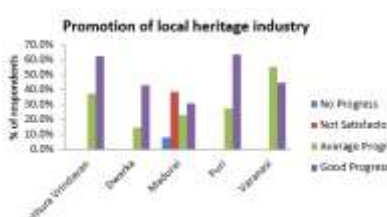


Figure 4.44 local heritage

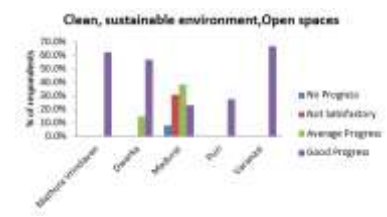


Figure 4.45 Clean open spaces

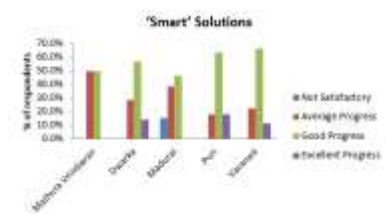


Figure 4.46 smart solutions

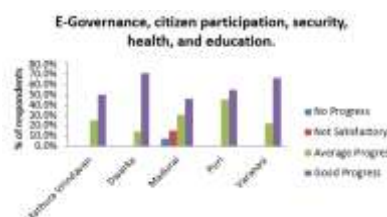


Figure 4.47 E-governance

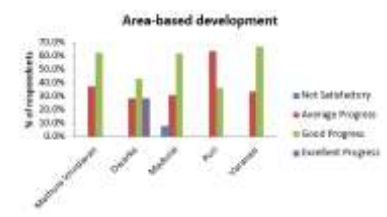


Figure 4.48 Area based development



Figure 4.49 scheme awareness

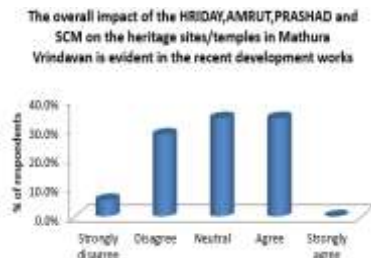


Figure 4.50 Scheme impact in heritage sites in Mathura-Vrindavan

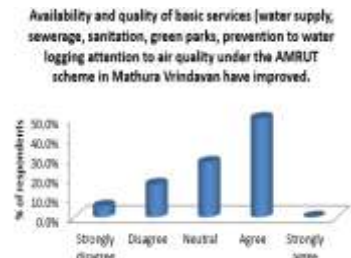


Figure 4.51 Availability of services and prevention to water logging

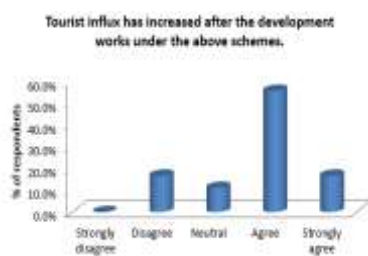


Figure 4.52 Tourist influx

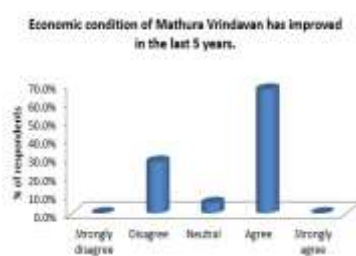


Figure 4.16 Economic conditions

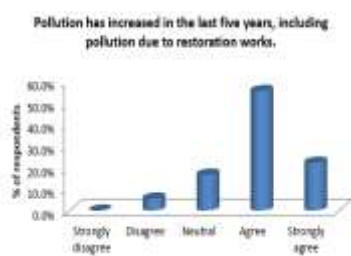


Figure 4.17 Increase in Pollution levels

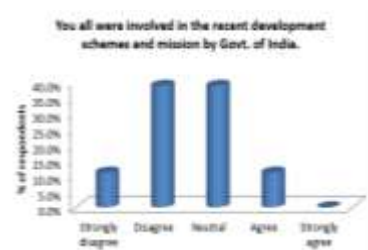


Figure 4.18 Involvement in schemes

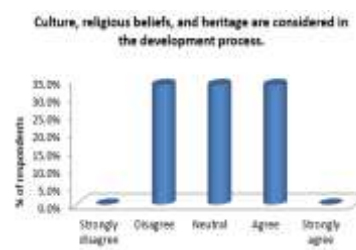


Figure 4.19 Religious and cultural considerations

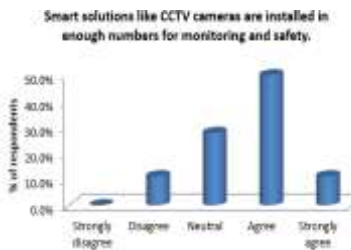


Figure 4.20 Smart solutions

67% of residents are not aware of the schemes and their facilities provided by the GOI. Both agreement and disagreement are seen in the scheme's impact in Mathura-Vrindavan. Good progress is seen in basic services. Increase in economic conditions of the city. Poor involvement of residents in schemes is seen. Gaps in religious and cultural considerations. Good application of smart solutions is done but lacks maintenance. Good progress in restoration works, Poor transport and road conditions were good, average facilities, poor infrastructure services.



Figure 4.21 Amenities and services

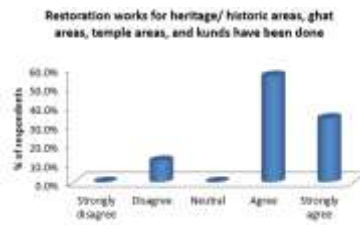


Figure 4.22 Restoration works



Figure 4.23 Road conditions

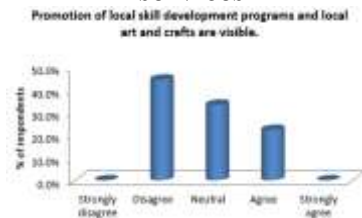


Figure 4.24 Local skill promotion

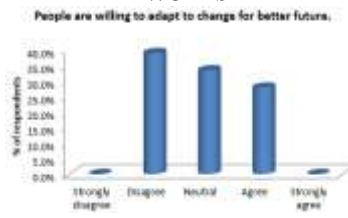


Figure 4.25 People willing to adapt to the future

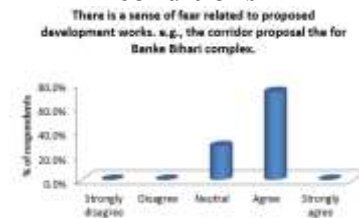


Figure 4.26 Threat of development among people

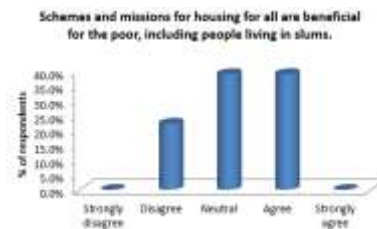


Figure 4.27 Scheme benefits



Figure 4.28 TOD development

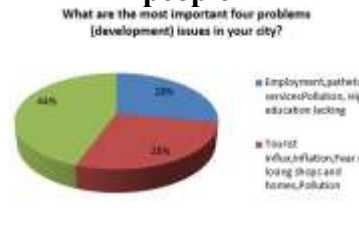


Figure 4.29 Issues in public



Figure 4.30 Public suggestions

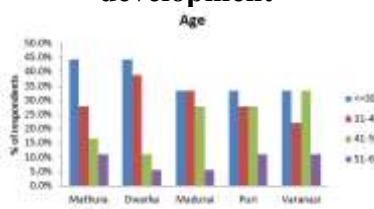


Figure 4.31 Age differences among cities

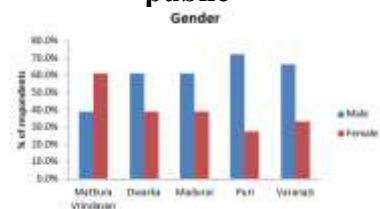


Figure 4.32 Gender differences among cities



Figure 4.33 Issues and Problems



Figure 4.34 Awareness of schemes

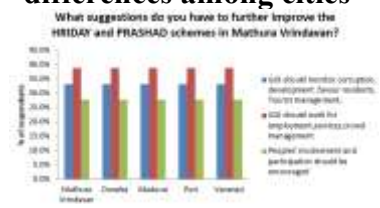


Figure 4.35 Suggestions

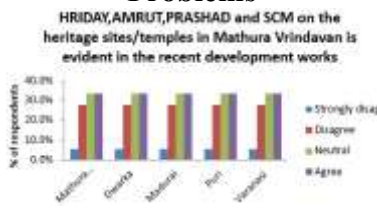


Figure 4.36 Schemes impact



Figure 4.37 Service availability

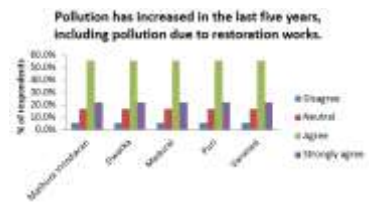


Figure 4.38 Pollution

Poor promotion of local skills and crafts. Issues such as unemployment, pollution in public areas, high tourist influx, and fear of losing shops and houses exist among residents. Suggestions include monitoring corruption, tourist management, crowd management and employment generation.

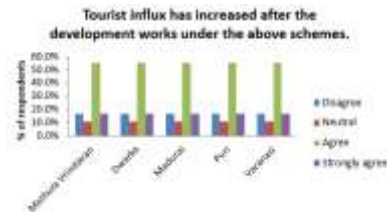


Figure 4.39 Tourist influx

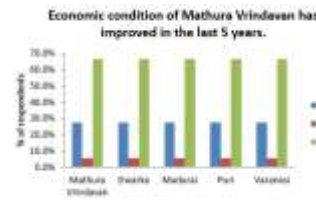


Figure 4.40 Economy

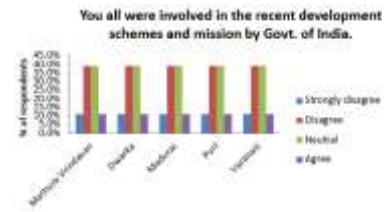


Figure 4.41 Inclusiveness

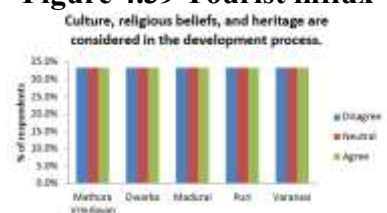


Figure 4.42 Cultural aspect

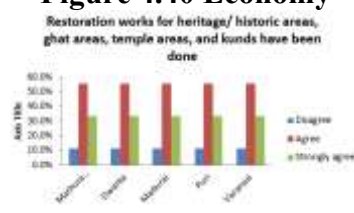


Figure 4.43 Restoration works

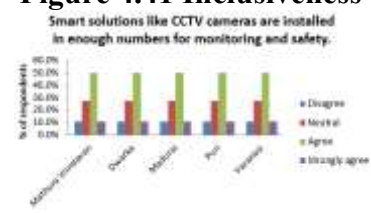


Figure 4.44 Smart solutions



Figure 4.45 Infrastructure facilities



Figure 4.46 Road networks

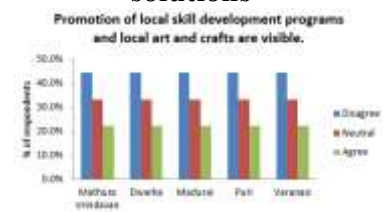


Figure 4.47 Promotion of local arts



Figure 4.48 Housing schemes



Figure 4.49 Adaptiveness of people



Figure 4.50 TOD, traffic management



Figure 4.51 Sense of fear

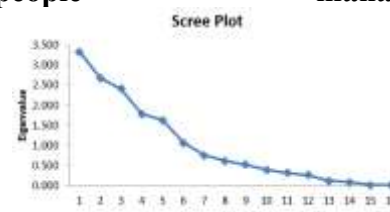


Figure 4.52 Statistical chart

Table 4.16 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.212
Bartlett's Test of Sphericity	Chi-Square	1142.018
	df	120
	Sig.	.0001**

Table 4.17 Total Variance Explained

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.329	20.807	20.807	3.329	20.807	20.807	2.758	17.237	17.237
2	2.679	16.743	37.551	2.679	16.743	37.551	2.299	14.366	31.603
3	2.413	15.084	52.635	2.413	15.084	52.635	2.099	13.116	44.719
4	1.784	11.153	63.788	1.784	11.153	63.788	2.062	12.890	57.609
5	1.632	10.197	73.985	1.632	10.197	73.985	1.881	11.759	69.368
6	1.063	6.642	80.627	1.063	6.642	80.627	1.801	11.259	80.627
7	.753	4.705	85.331						
8	.618	3.865	89.196						
9	.526	3.286	92.482						
10	.391	2.447	94.929						
11	.315	1.972	96.900						
12	.267	1.669	98.569						
13	.116	.726	99.295						
14	.084	.527	99.822						
15	.017	.105	99.928						
16	.012	.072	100.000						
Extraction Method: Principal Component Analysis.									

Table 4.18 Communalities

	Initial	Extraction
The overall impact of the HRIDAY, AMRUT, PRASHAD and SCM on the heritage sites/temples in Mathura Vrindavan is evident in the recent development works	1.000	.795
Availability and quality of basic services (water supply, sewerage, sanitation, green parks, prevention to water logging attention to air quality under the AMRUT scheme in Mathura Vrindavan have improved.	1.000	.881
Tourist influx has increased after the development works under the above schemes.	1.000	.686
Economic condition of Mathura Vrindavan has improved in the last 5 years.	1.000	.827
Pollution has increased in the last five years, including pollution due to restoration works.	1.000	.803
You all were involved in the recent development schemes and mission by Govt. of India.	1.000	.840
Culture, religious beliefs, and heritage are considered in the development process.	1.000	.803
Smart solutions like CCTV cameras are installed in enough numbers for monitoring and safety.	1.000	.851
Sufficient parking lots, solid waste management, treatment, street furniture, and shifting of hanging wires, poles, and transformers are done.	1.000	.785
Restoration works for heritage/ historic areas, ghat areas, temple areas, and kunds have been done	1.000	.712
Road networks, the condition of roads, pedestrian pathways, safe and affordable public transport system with smart metering, and walkable community development.	1.000	.874
Promotion of local skill development programs and local art and crafts are visible.	1.000	.850
People are willing to adapt to change for better future.	1.000	.825
There is a sense of fear related to proposed development works. e.g., the corridor proposal the for Banke Bihari complex.	1.000	.775
Schemes and missions for housing for all are beneficial for the poor, including people living in slums.	1.000	.823
Transit-oriented development (TOD), an intelligent traffic management system is incorporated in Mathura Vrindavan	1.000	.770
Extraction Method: Principal Component Analysis.		

Table 4.19 Weighted Mean Rank

Name		N	Mean Rank	Weighted Mean
The overall impact of the HRIDAY, AMRUT, PRASHAD and SCM on the heritage sites/temples in Mathura Vrindavan is evident in the recent development works	Mathura Vrindavan	18	45.50	2.94
	Dwarka	18	45.50	2.94
	Madurai	18	45.50	2.94
	Puri	18	45.50	2.94
	Varanasi	18	45.50	2.94
Availability and quality of basic services (water supply, sewerage, sanitation, green parks, prevention to water logging attention to air quality under the AMRUT scheme in Mathura Vrindavan have improved.	Mathura Vrindavan	18	45.50	3.22
	Dwarka	18	45.50	3.22
	Madurai	18	45.50	3.22
	Puri	18	45.50	3.22
	Varanasi	18	45.50	3.22
Tourist influx has increased after the development works under the above schemes.	Mathura Vrindavan	18	45.50	3.72
	Dwarka	18	45.50	3.72
	Madurai	18	45.50	3.72
	Puri	18	45.50	3.72
	Varanasi	18	45.50	3.72
Economic condition of Mathura Vrindavan has improved in the last 5 years.	Mathura Vrindavan	18	45.50	3.39
	Dwarka	18	45.50	3.39
	Madurai	18	45.50	3.39
	Puri	18	45.50	3.39
	Varanasi	18	45.50	3.39
Pollution has increased in the last five years, including pollution due to restoration works.	Mathura Vrindavan	18	45.50	3.94
	Dwarka	18	45.50	3.94
	Madurai	18	45.50	3.94
	Puri	18	45.50	3.94
	Varanasi	18	45.50	3.94
You all were involved in the recent development schemes and mission by Govt. of India.	Mathura Vrindavan	18	45.50	2.50
	Dwarka	18	45.50	2.50
	Madurai	18	45.50	2.50

	Puri	18	45.50	2.50
	Varanasi	18	45.50	2.50
Culture, religious beliefs, and heritage are considered in the development process.	Mathura Vrindavan	18	45.50	3.00
	Dwarka	18	45.50	3.00
	Madurai	18	45.50	3.00
	Puri	18	45.50	3.00
	Varanasi	18	45.50	3.00
Smart solutions like CCTV cameras are installed in enough numbers for monitoring and safety.	Mathura Vrindavan	18	45.50	3.61
	Dwarka	18	45.50	3.61
	Madurai	18	45.50	3.61
	Puri	18	45.50	3.61
	Varanasi	18	45.50	3.61
Sufficient parking lots, solid waste management, treatment, street furniture, and shifting of hanging wires, poles, and transformers are done.	Mathura Vrindavan	18	45.50	3.11
	Dwarka	18	45.50	3.11
	Madurai	18	45.50	3.11
	Puri	18	45.50	3.11
	Varanasi	18	45.50	3.11
Restoration works for heritage/ historic areas, ghat areas, temple areas, and kunds have been done	Mathura Vrindavan	18	45.50	4.11
	Dwarka	18	45.50	4.11
	Madurai	18	45.50	4.11
	Puri	18	45.50	4.11
	Varanasi	18	45.50	4.11
Road networks, the condition of roads, pedestrian pathways, safe and affordable public transport system with smart metering, and walkable community development.	Mathura Vrindavan	18	45.50	3.56
	Dwarka	18	45.50	3.56
	Madurai	18	45.50	3.56
	Puri	18	45.50	3.56
	Varanasi	18	45.50	3.56
Promotion of local skill development programs and local art and crafts are visible.	Mathura Vrindavan	18	45.50	2.78
	Dwarka	18	45.50	2.78
	Madurai	18	45.50	2.78
	Puri	18	45.50	2.78
	Varanasi	18	45.50	2.78

Source: Author

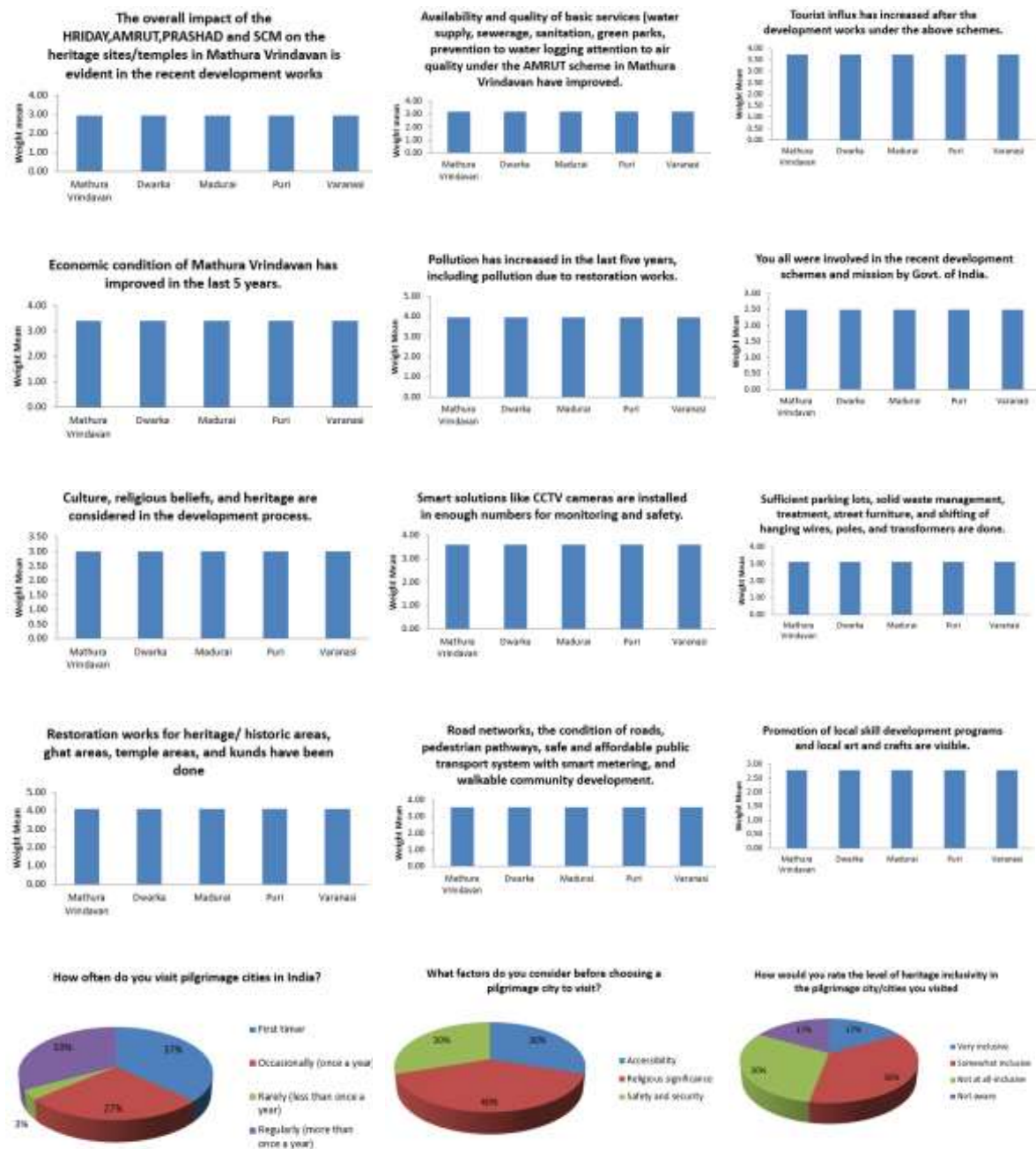


Figure 4.90 i. Frequency of visit, ii. Factors of significance, ii. Heritage inclusivity



Figure 4.53 i. Recommendation of Mathura-Vrindavan as tourist destination, ii. Factors contributing to heritage inclusivity, ii. Factors for sustainability and heritage inclusive development

(Source: Author)

Large number of tourists visit or select pilgrimage destinations based on religious importance. The inclusivity factor is very low in these five pilgrimage cities. Still half of the visitors recommend Mathura-Vrindavan as a tourist destination to others. Factors affecting heritage inclusivity are Heritage preservation strategies are to be implemented for sustainability and inclusive development.

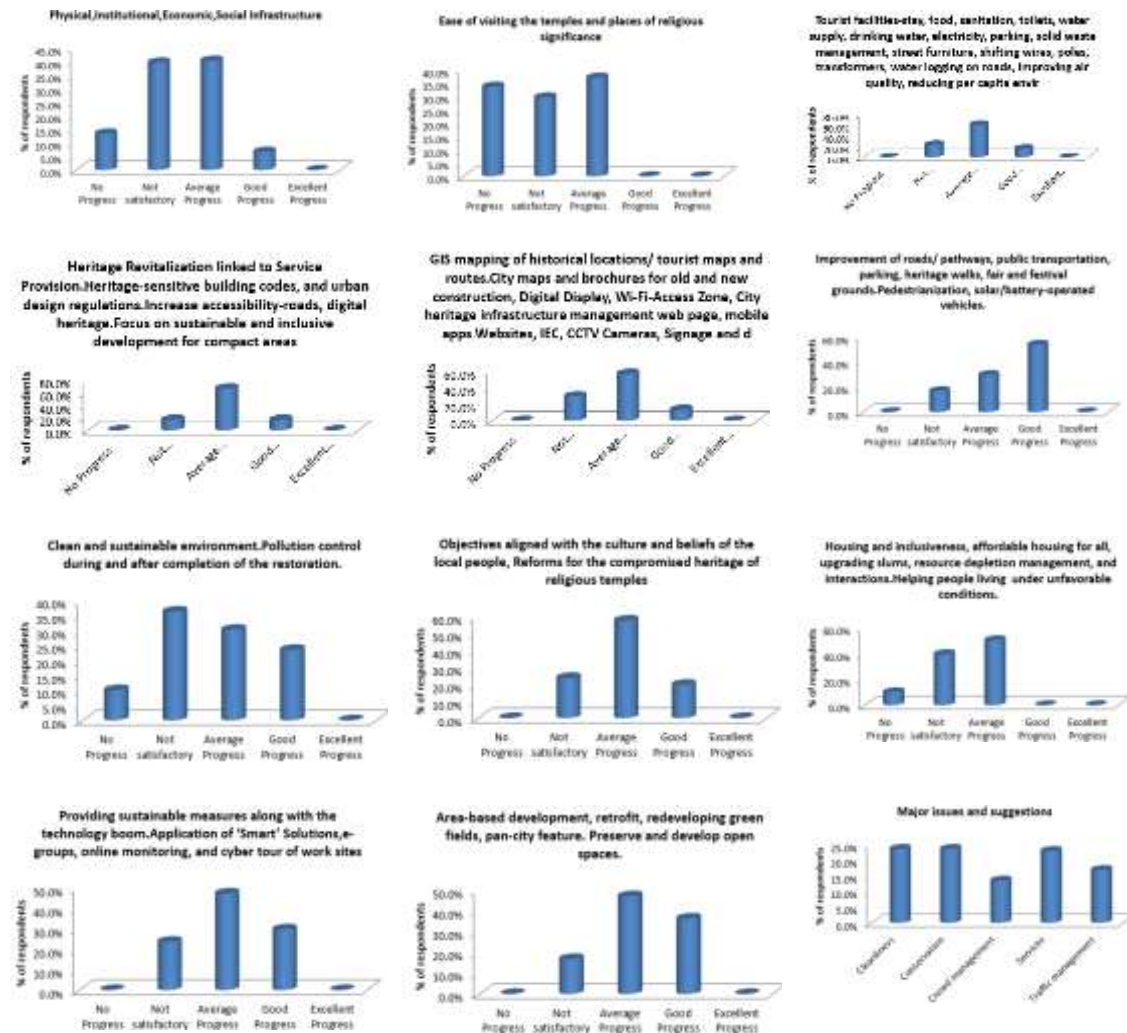
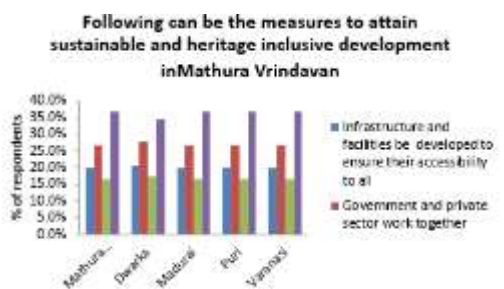
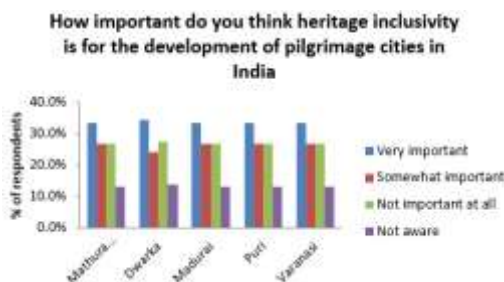
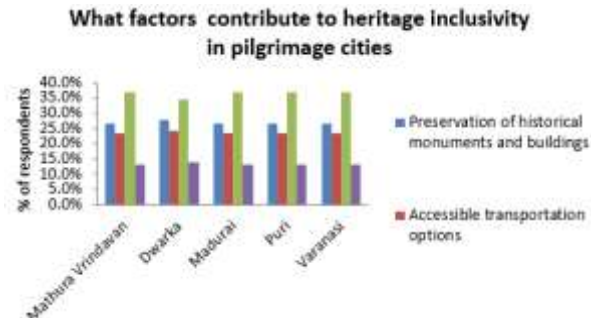
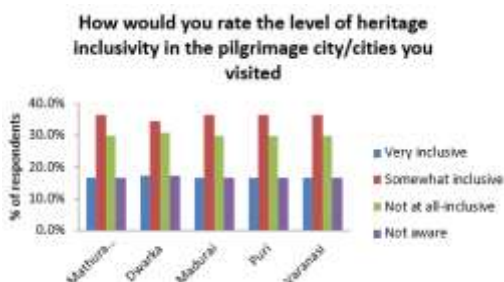
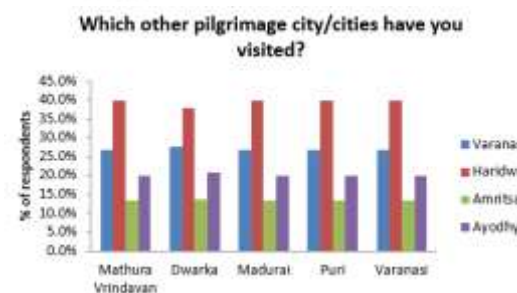
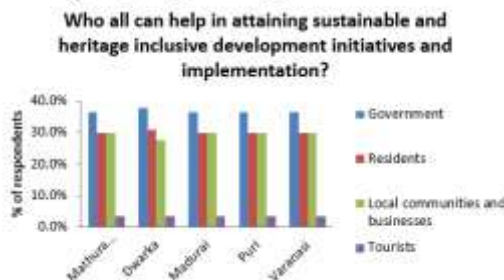
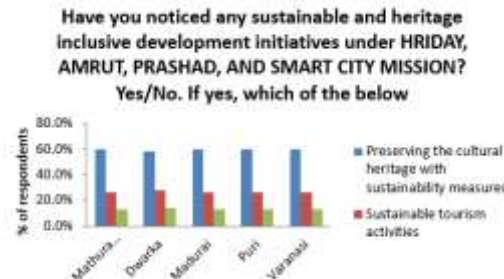
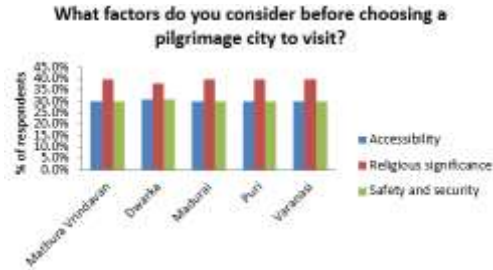
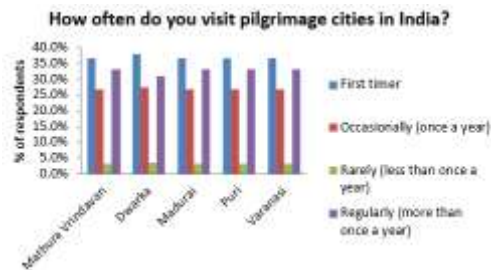


Figure 4.54 Graphs showing responses against cities

Source: Author

Poor progress in overall infrastructure development. The accessibility of temples and religious places is not clear. Some development is seen under heritage revitalization. Average progress in GIS mapping, good progress in heritage protection. More energy-efficient options like solar and battery operation in the transport system are used. Average citizen participation in decision-making and implementation. Progress is witnessed in clean energy and pollution control. Average execution of smart solutions for tourist management. Improvement in area-based development works. Issues and challenges are seen in aspects of cleanliness, environmental conservation, services facility and traffic management.



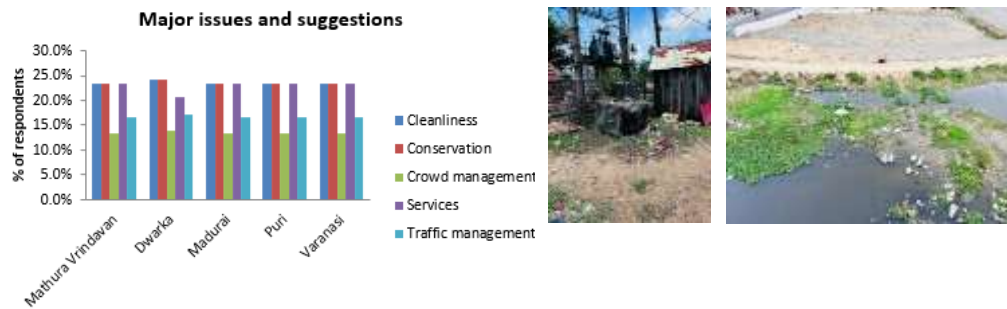


Figure 4.55 Issues in i. Puri and ii. Madurai

Table 4.20 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.335
Bartlett's Test of Sphericity	Chi-Square	842.810
	df	120
	p-value	.000

Table 4.21 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.585	16.156	16.156	2.585	16.156	16.156	1.891	11.818	11.818
2	2.372	14.826	30.983	2.372	14.826	30.983	1.854	11.588	23.406
3	1.898	11.864	42.846	1.898	11.864	42.846	1.810	11.315	34.721
4	1.647	10.294	53.140	1.647	10.294	53.140	1.808	11.299	46.019
5	1.329	8.309	61.449	1.329	8.309	61.449	1.703	10.641	56.661
6	1.067	6.670	68.119	1.067	6.670	68.119	1.468	9.174	65.834
7	1.033	6.454	74.573	1.033	6.454	74.573	1.398	8.739	74.573
8	.891	5.570	80.143						
9	.854	5.337	85.480						
10	.590	3.687	89.167						
11	.558	3.488	92.655						
12	.393	2.455	95.110						
13	.309	1.931	97.041						
14	.214	1.340	98.382						
15	.179	1.117	99.499						
16	.080	.501	100.000						
Extraction Method: Principal Component Analysis.									

Table 4.22 Communalities

	Initial	Extraction
Physical, Institutional, Economic, Social Infrastructure	1.000	.789
Ease of visiting the temples and places of religious significance	1.000	.770
Heritage Revitalization linked to Service Provision. Heritage-sensitive building codes, and urban design regulations. Increase accessibility-roads, digital heritage. Focus on sustainable and inclusive development for compact areas	1.000	.334
GIS mapping of historical locations/ tourist maps and routes.City maps and brochures for old and new construction, Digital Display, Wi-Fi-Access Zone, City heritage infrastructure management web page, mobile apps Websites, IEC, CCTV Cameras, Signage and d	1.000	.704
Tourist facilities-stay, food, sanitation, toilets, water supply, drinking water, electricity, parking, solid waste management, street furniture, shifting wires, poles, transformers, water logging on roads, improving air quality, reducing per capita enviro	1.000	.794
Protection of Heritage/ historic areas, ghats temple areas, kunds. Heritage monuments and links of service provisions.	1.000	.831
Improvement of roads/ pathways, public transportation, parking, heritage walks, fair and festival grounds. Pedestrianization, solar/battery-operated vehicles.	1.000	.796
Skill development (guides, local artisans, and women) Promotion of local heritage industry sustainable factors, and people's willingness to adapt to change	1.000	.744
Clean and sustainable environment. Pollution control during and after completion of the restoration.	1.000	.736
Objectives aligned with the culture and beliefs of the local people, Reforms for the compromised heritage of religious temples	1.000	.706
Housing and inclusiveness, affordable housing for all, upgrading slums, resource depletion management, and interactions. Helping people living under unfavorable conditions.	1.000	.733
Providing sustainable measures along with the technology boom. Application of 'Smart' Solutions,e-groups, online monitoring, and cyber tour of work sites	1.000	.820
Sustainable public transport systems, road safety, walkable localities and services, reducing congestion, road network, pedestrians, cyclists, Transit Oriented Development (TOD), Smart Solutions (intelligent traffic management system), smart metering.	1.000	.741
Good E-Governance, citizen participation, online services, security, health, and education.	1.000	.762
Area-based development, retrofit, redeveloping green fields, pan-city feature. Preserve and develop open spaces.	1.000	.809
Inclusive and sustainable urbanization, flexibility in land use and building byelaws, participation of civil society. Economic, social, and environmental links between urban rural areas.	1.000	.863
Extraction Method: Principal Component Analysis.		

	Rotated Component Matrix						
	1	2	3	4	5	6	7
Sustainable public transport systems, road safety, walkable localities and services, reducing congestion, road network, pedestrians, cyclists, Transit Oriented Development (TOD), Smart Solutions (intelligent traffic management system), smart metering.	.847						
Objectives aligned with the culture and beliefs of the local people, Reforms for the compromised heritage of religious temples	.571	-.431					
Heritage Revitalization linked to Service Provision. Heritage-sensitive building codes, and urban design regulations. Increase accessibility-roads, digital heritage. Focus on sustainable and inclusive development for compact areas							
Tourist facilities-stay, food, sanitation, toilets, water supply, drinking water, electricity, parking, solid waste management, street furniture, shifting wires, poles, transformers, water logging on roads, improving air quality, reducing per capita enviro		.810					
Skill development (guides, local artisans, and women) Promotion of local heritage industry sustainable factors, and people's willingness to adapt to change		.707					
Housing and Inclusiveness, affordable housing for all, upgrading slums, resource depletion management, and interactions. Helping people living under unfavorable conditions.	-.433	-.537					
Improvement of roads/ pathways, public transportation, parking, heritage walks, fair and festival grounds. Pedestrianization, solar/battery-operated vehicles.			-.865				
Protection of Heritage/ historic areas, ghats temple areas, kunds. Heritage monuments and links of service provisions.			.833				
Clean and sustainable environment. Pollution control during and after completion of the restoration.				.794			
GIS mapping of historical locations/ tourist maps and routes. City maps and brochures for old and new construction, Digital Display, Wi-Fi-Access Zone, City heritage infrastructure management web page, mobile apps Websites, IEC, CCTV Cameras, Signage and d				.676			
Good E-Governance, citizen participation, online services, security, health, and education.				.573		-.425	
Providing sustainable measures along with the technology boom. Application of 'Smart' Solutions, e-groups, online monitoring, and cyber tour of work sites					.814		
Physical, Institutional, Economic, Social Infrastructure					-.781		
Inclusive and sustainable urbanization, flexibility in land use and building bye-laws, participation of civil society. Economic, social, and environmental links between urban rural areas.						.918	
Area-based development, retrofit, redeveloping green fields, pan-city feature. Preserve and develop open spaces.							.839
Ease of visiting the temples and places of religious significance						-.506	.561
Extraction Method: Principal Component Analysis.							
Rotation Method: Varimax with Kaiser Normalization.							

Scree Plot

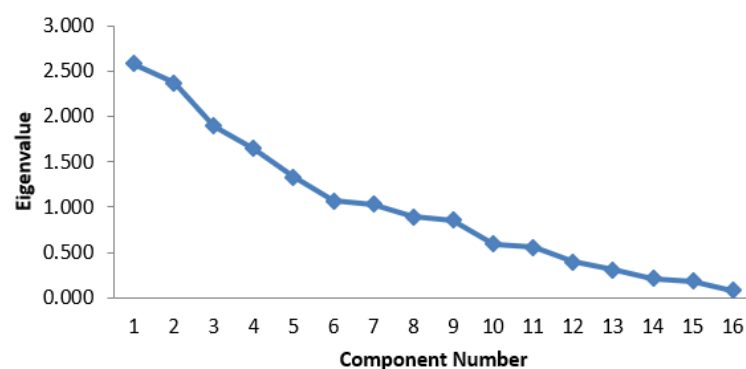


Figure 4.56 graph for scree plot

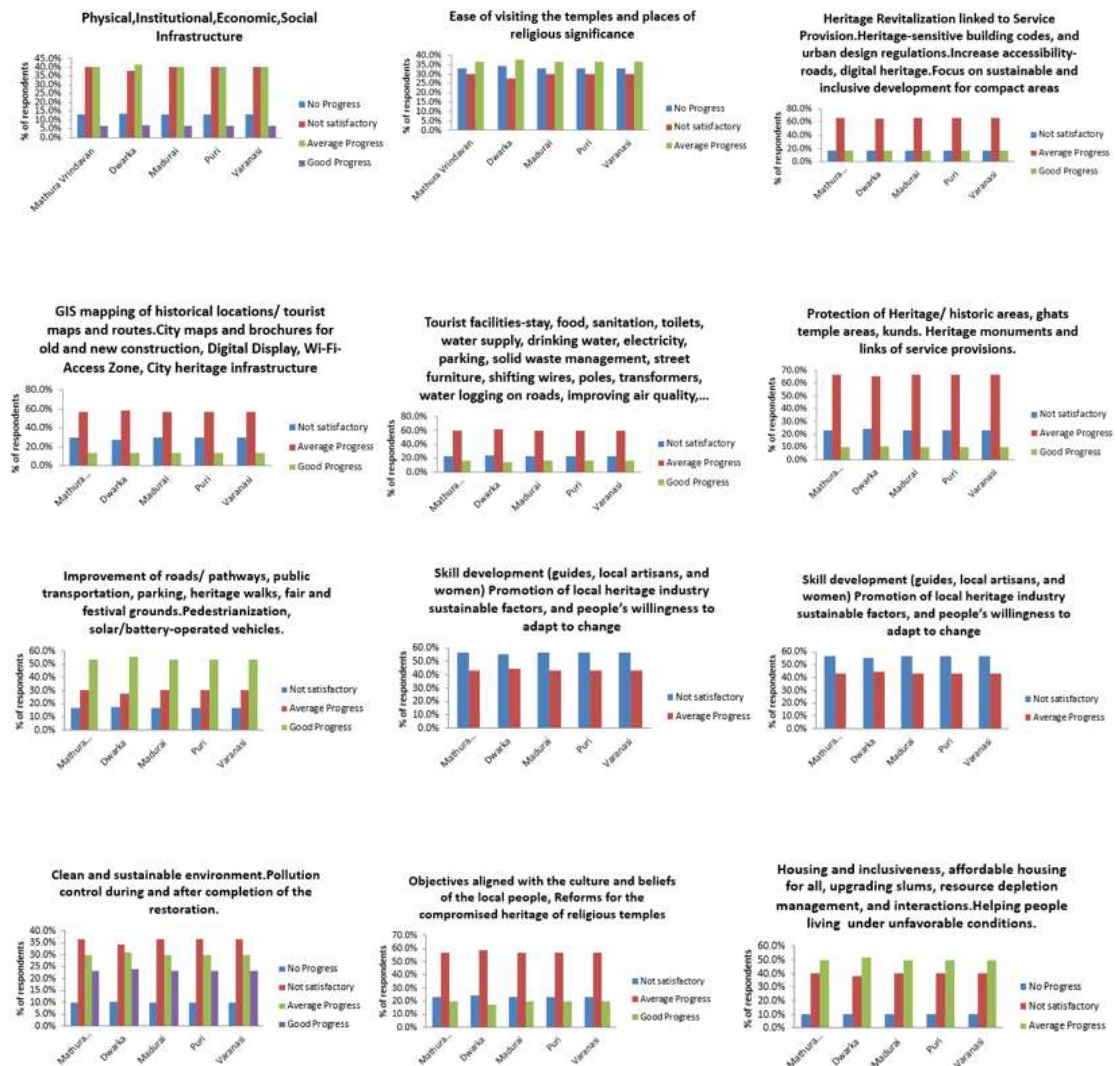


Figure 4.57 Responses received for parameters

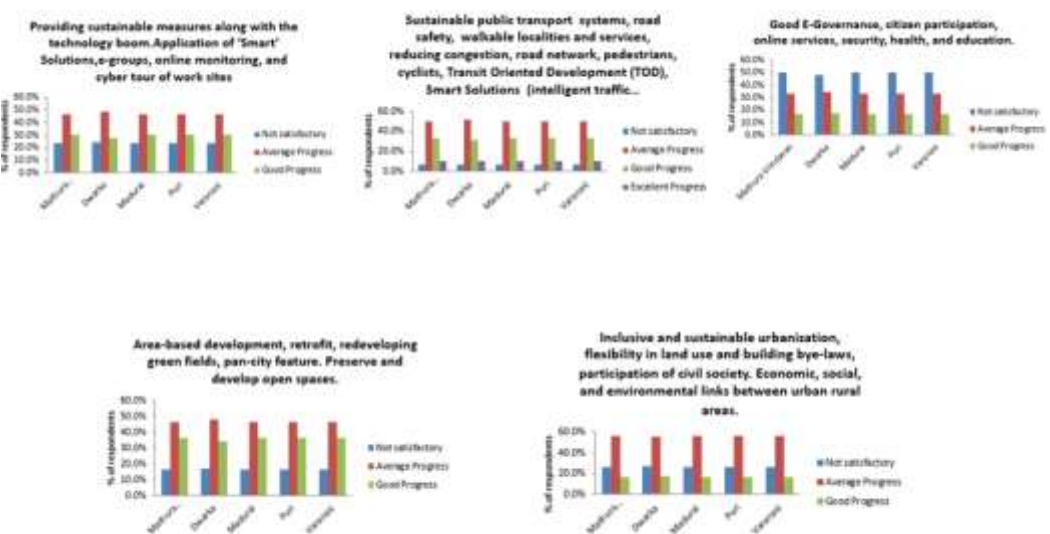


Figure 4.58 Responses received for parameters

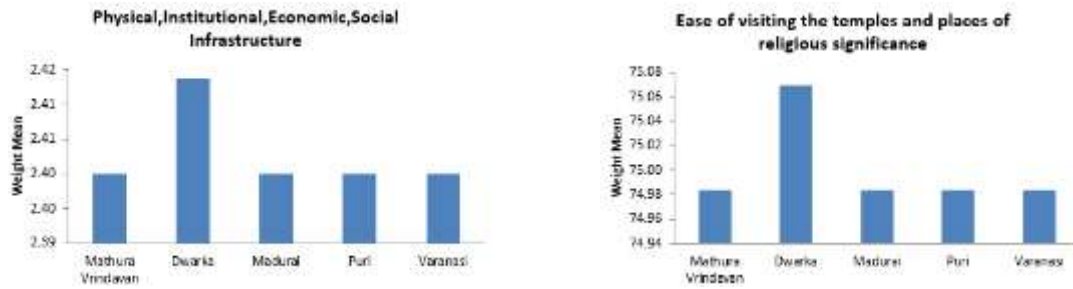


Figure 4.59 Responses received for all cities

Table 4.23 Ranks

Name		N	Mean Rank	Weighted Mean	Kruskal Wallis	df	p-value
Physical, Institutional, Economic, Social Infrastructure	Mathura Vrindavan	30	74.83	2.40	.011	4	1.000
	Dwarka	29	75.69	2.41			
	Madurai	30	74.83	2.40			
	Puri	30	74.83	2.40			
	Varanasi	30	74.83	2.40			
Ease of visiting the temples and places of religious significance	Mathura Vrindavan	30	74.98	2.03	.000	4	1.000
	Dwarka	29	75.07	2.03			
	Madurai	30	74.98	2.03			
	Puri	30	74.98	2.03			
	Varanasi	30	74.98	2.03			
Heritage Revitalization linked to Service Provision. Heritage-sensitive building codes, and urban design regulations. Increase accessibility-roads, digital heritage. Focus on sustainable and inclusive development for compact areas	Mathura Vrindavan	30	75.00	3.00	0.000	4	1.000
	Dwarka	29	75.00	3.00			
	Madurai	30	75.00	3.00			
	Puri	30	75.00	3.00			
	Varanasi	30	74.98	2.03			
GIS mapping of historical locations/ tourist maps and routes. City maps and brochures for old and new construction, Digital Display, Wi-Fi-Access Zone, City heritage infrastructure management web page, mobile apps Websites, IEC, CCTV Cameras,	Mathura Vrindavan	30	74.65	2.83	.052	4	1.000
	Dwarka	29	76.45	2.86			
	Madurai	30	74.65	2.83			
	Puri	30	74.65	2.83			
	Varanasi	30	74.65	2.83			

Signage and							
Tourist facilities-stay, food, sanitation, toilets, water supply, drinking water, electricity, parking, solid waste management, street furniture, shifting wires, poles, transformers, water logging on roads, improving air quality, reducing per capita emission	Mathura Vrindavan	30	75.42	2.93	.075	4	.999
	Dwarka	29	73.28	2.90			
	Madurai	30	75.42	2.93			
	Puri	30	75.42	2.93			
	Varanasi	30	75.42	2.93			
Protection of Heritage/ historic areas, ghats temple areas, kunds. Heritage monuments and links of service provisions.	Mathura Vrindavan	30	75.07	2.87	.002	4	1.000
	Dwarka	29	74.72	2.86			
	Madurai	30	75.07	2.87			
	Puri	30	75.07	2.87			
	Varanasi	30	75.07	2.87			
Improvement of roads/ pathways, public transportation, parking, heritage walks, fair and festival grounds. Pedestrianization, solar/battery-operated vehicles.	Mathura Vrindavan	30	74.82	3.37	.014	4	1.000
	Dwarka	29	75.76	3.38			
	Madurai	30	74.82	3.37			
	Puri	30	74.82	3.37			
	Varanasi	30	74.82	3.37			
Skill development (guides, local artisans, and women) Promotion of local heritage industry sustainable factors, and people's willingness to adapt to change	Mathura Vrindavan	30	74.78	2.43	.021	4	1.000
	Dwarka	29	75.90	2.45			
	Madurai	30	74.78	2.43			
	Puri	30	74.78	2.43			
	Varanasi	30	74.78	2.43			
Clean and sustainable environment. Pollution control during and after completion of the restoration.	Mathura Vrindavan	30	74.78	2.67	.017	4	1.000
	Dwarka	29	75.90	2.69			
	Madurai	30	74.78	2.67			
	Puri	30	74.78	2.67			
	Varanasi	30	74.78	2.67			

4.6 Comparative Analysis

Evaluation of the identified issues signifies lack sensitive development, water purification missing, and maintenance and infrastructure up-gradation required, crowded markets, with narrow lanes, encroachment in the market, accidents and traffic jams. No signages, lack of maintenance and negligence towards rivers and ghats in Mathura-Vrindavan. Existing issues

refers to lack of maintenance, unhygienic living conditions and loss of heritage, redevelopment of four chowks, edge development with guidelines and proper waste disposal. Immediate action for infrastructure and amenities needs organizational spaces, crowd Management and loss of heritage. Resident's willingness to change, good amount of restoration works is done in Mathura-Vrindavan. Narrow roads not preferred for big vehicles. Noise control and animal threat, few monkeys have been caught by the authorities. Segregated approach for resolving the issues, Need for inclusive interventions under policies.

Table 4.24 Comparative Analysis of City Surveys

Target goals by 2030	Mathura - Vrindavan: Class I city	Madurai: Class I city	Puri: Class I city	Varanasi: Class I city	Dwarka: Class III city
Housing and basic services	lack of hygiene maintenance, Restoration works were well conducted	poor implementation, Historic and religious importance among public	poor waste disposal, religious importance, United public for the development of tourism	450 houses and 5000 families dismantled	there are a few gaps to fulfil
Transport systems	Improving local IPT, Digital traffic regulation required,	Schemes supporting pedestrian-friendly streets,	Development of streets under SCM through streetscape projects along Jagannath temple.	high tourist influx, regular maintenance, Ring Road proposal under AMRUT	Achieving last mile connectivity
Inclusivity and participatory planning	Poor participation and inclusivity, religious significance, Banke Bihari corridor proposal	Present, Historic and religious importance among the public	Partially present, works done at the local level, United public for the development of tourism	Poor participation, Cultural unity, Under HRIDAY, 11 projects are proposed/ implemented (total fund: 89.31 crores).	Considered to an extent, Local craftsmanship, total HRIDAY allotted funds: 19.56 Cr.
Heritage conservation	Partially done, newer	Works under progress for heritage, poor	Tanks and beaches are	Negligence is seen, and they	Temples and heritage sites

	development shall be aligned with the existing heritage, sacred heritage value, government funding for heritage protection	implementation	protected, and a lack of awareness exist	were given compensation, demolition of heritage structures	are developed in a planned manner but still, gaps are seen.
Disaster and death control	low tourist allowance at the entrance of crowd potential areas to resist overcrowding	Construction restrictions for floodplains/catchment area along river Vaigai.	High tourist footfall	-	-
Environmental impact	Edge development regulation guidelines to be proposed, polluted river water of Yamuna, no waste management	Maintenance committees for water bodies and heritage sites, riverfront development project under SCM helped for river conservation	Pollution, Revival of ponds/kunds done under HRIDAY Protection and conservation of river water under HRIDAY scheme.	increase in pollution levels	increase in pollution levels
Availability of social and recreational amenities to all	Poor amenities, Works under SCM, Shaded seating areas provided around Potra kund:- HRIDAY success, Natural rivers and tanks,	Public toilets, IT facilities, etc. provided but needful-scale development, parks, and public facilities are available	Parks and tanks are provided but poor maintenance, Proper planning and participation	Poor landscape, absence of public amenities	Signage and water facilities are provided through PRASAD, HRIDAY, etc. poor efficiency, Designated spaces

National and regional development planning	Religious significance	-	-	Master plans and zonal plans updated using Arc GIS	-
Disaster risk management	Banke Bihari corridor proposal	-	-	-	-
Sustainable and resilient buildings	Banke Bihari corridor proposal	regular maintenance	-	Kashi-Vishwanath corridor project	smart solutions and skill development

(Urban Management Centre, Ahmedabad i City HRIDAY Plan Heritage City Development and Augmentation Yojana (HRIDAY) Dwarka, Gujarat, 2016)

Major proposals are under SCM, AMRUT, HRIDAY and PRASAD by central government. Threat from the excessive use of automobiles. In Puri city, no HRIDAY plan implemented. Construction materials on heritage sites. No up gradation seen. Water is still polluted. No conservation of heritage buildings and environment. Parks were developed and well maintained under AMRUT. Lack of maintenance after execution of works. HRIDAY interventions do not include landscape works done near heritage site. Only policy that focus on housing. Being one of the places of national religious importance the emphasis seems to be limited. Absence of PRASAD and SCM. Similar approach can be applied for Dwarka as both are coastal cities. Loss of local people's houses for new developments. Large crowd management required. Large crowd create threats for local people in various ways like culture, crime, resource waste and misuse. More policies are required for tourism development. HRIDAY is more into traffic and street development, incomplete projects. Master plan proposes tourism guidelines which is neglected.

The funding structure shows the flow of funds from top to bottom, shared at different levels and used by the local authorities. Cost breakdown table shows release of unnecessary funds referring to misuse. Some projects have missing budget requirements. Differences in project costs and released funds. Major projects by ABADHA (2021-22 budget 1087 cr.). Under ABADHA, 265 crores, while 500 crores sanctioned for Puri as a World Heritage city (2019). Fund approved so far under AMRUT are 864.28 crores (2016-2021) (EXECUTIVE SUMMARY, 2019).

Table 4.25 fund analysis for the schemes among cities

City/ (crores unless mentioned)	Mathura- Vrindavan: Class I city	Madurai : Class I city	Puri: Class I city	Varanasi: Class I city	Dwarka: Class III city	Inferences
HRIDAY; Central: state share	100:1	-	100:1	100:1	100:1	Fully centrally funded
HRIDAY; Fund estimate (crores)	40.04 (2014-15)	-	22.54	89.31	22.46	Fund proposed based on projects by state and local authorities
HRIDAY: Fund approved/releas ed till now	21.75 (2019)	-	16.12	87.62	22.76 (2019)	Funds released by central government
AMRUT funds; Central: state share	90:10	90:10	50:50	90:10	90:10	Shared by central and state government
AMRUT; Fund estimate	2391.81 (2017-21)	2966.74 (2018- 19)	88	172.43	13.14 (2015-20)	Fund proposed based on projects by state and local authorities
AMRUT funds; Fund approved till now	2.13 (2015- 16)	2438.22 crores (2018- 19)	26469.29 thousand (District)	130	12.93 (2015-20)	Funds released by central & state government
PRASAD funds; Central: state share	100:1	-	100:1	100:1	100:1	Fully centrally funded
PRASAD funds; Fund estimate	37.73 (2022)	-	-	74.02 (up to 2023)	13.08 (up to 2023)	Fund proposed based on projects by state and local authorities
PRASAD funds: Fund approved till now	55.55 (2019)	-	-	57.11 (up to 2023)	10.46 (up to 2023)	Funds released by central government
SCM funds; Central: state share	-	50:50	-	50:50	-	Depends on projects

SCM funds; Fund estimate	-	991 (2015- 22)	-	3348.4 (2016-19)	-	Fund proposed based on projects by state and local authorities, total funds estimated
SCM fund; Fund approved till now	-	98 (2021- 22) 392 (2015- 2021)	-	98 (2021- 22) 392 (2015- 2021)	-	Funds released by various government and schemes

(Fund Allocation, 2020)

The financial viability of urban local bodies is frequently insufficient, and tariff levels frequently fail to reflect the expenses of the services delivered, resulting in financial losses (Bobek et al., 2021). Delays caused by hazards in project execution leading to rise of budget of projects. The breakup of AMRUT funds in the local level is not available in public domain. Outdated infrastructure of buildings, poor implementation of works, presence of informal housing due to limited accommodation facility. All project under the scheme accounts for 3.6 Crores. Less focus is seen on heritage preservation and restoration such as retrofitting works. Dwarka, funded by HRIDAY and PRASAD mainly, no policy at state/local level for tourism. Poor transparency. Promotion of heritage through media sources, apply tourist taxes, tourist registrations. PRASAD or HRIDAY only focus on heritage and pilgrimage infrastructural facilities. No development work proposed for housing sector apart for state government tourism department provisions. Mass housing projects are required to be constructed.

4.7 Inferences

As a result of the research and continuous evaluation, it is understood that the funding structure for the selected pilgrimage cities differs based on various factors such as local needs, stakeholder's interests, tourism category, administration in-charge, city classification as per Census and RBI guidelines and estimates provided by the state and local authorities for the proposed projects. After the identification of funding organizations, gaps between the proposed amount and received amount, funding structure for the cities depends on the central: state ratio share of total approved funds. Also, Varanasi is allotted maximum funding for HRIDAY AND SCM. It has been observed that there is a strong need for

promotion of employment and provision of employment funds for workers involved in the tourism development and heritage protection. Also, there is a strong need for support and promotion of opportunities for skilled labour in the tourism sector instead of the unskilled which is presently there in the sites. Fundings and proposals are required to involve technical experts to resolve issues more effectively.

Based on the analytical results following framework is proposed:- The results show that the administrative and financial frameworks supporting the growth of Indian pilgrimage cities are still disjointed, opaque, and not fully in line with the objectives of heritage-sensitive urban design. Due to their restricted income bases and non-cost-reflective rates, Urban Local Bodies (ULBs) are still under financial strain, which makes them reliant on transfers from the federal government and the states. Future initiatives must concentrate on creating decentralized financial frameworks, requiring city-level disclosure of money utilization, and implementing heritage-linked financial instruments like tourism taxes or conservation cesses in order to guarantee fiscal sustainability and responsibility. The requirement for a unified governance framework via multi-stakeholder platforms that close the gap between municipal governments, tourism bureaus, and historical agencies is equally important. It would be possible to reduce duplication, increase fund efficiency, and institutionalize heritage considerations in statutory Master Plans and City Development Plans (CDPs) by combining programs like HRIDAY, AMRUT, PRASAD, and Smart City Mission under a single Pilgrimage City Development Framework (PCDF).

The next stage of development must promote social, environmental, and heritage resilience in addition to administrative and financial improvements. This entails tackling housing shortages and informal settlements close to sacred precincts while integrating adaptive reuse and historical protection measures into the renovation of urban infrastructure. The creation of jobs, skill development, and support for locally owned businesses with ties to the heritage sector would strengthen the socioeconomic foundation and increase livelihood security and community involvement. To maintain ecological integrity, freshwater restoration, trash segregation, and eco-heritage zoning should be given top priority in environmental management, particularly in riverine pilgrimage cities. Continuous

evaluation should be guided by a performance-based monitoring methodology based on quantifiable metrics like liveability, historical preservation, and citizen satisfaction. This integrated, participatory, multi-scalar framework, which is in line with SDG 11.4 and the UNESCO Historic Urban Landscape (HUL) principles, aims to create pilgrimage cities that are resilient, inclusive, and spiritually vibrant urban ecosystems where heritage serves as a catalyst for sustainable urban transformation rather than a hindrance.

Heritage factor seems to be missing in new developments. People have mixed reactions to development works. Freshwater pollution is still a challenge for the cities on the riverbank.

CHAPTER 5. RECOMMENDATIONS, CONCLUSIONS AND WAY FORWARD

5. Recommendations, Conclusions and Way Forward

This chapter provides practical advice and tactics for matching policies to the requirements of these kinds of cities. The chapter summarizes the study and lays out alternate recommendations, discusses further approaches on the path to sustainability and concludes the study on heritage inclusive future of existing and upcoming pilgrimage cities.

5.1 Recommendations

In order to promote heritage-inclusive and sustainable pilgrimage cities, the guidelines provide an essential road map for filling policy gaps. Although pilgrimage sites have great cultural, historical, and spiritual value, they frequently struggle to balance environmental sustainability, community needs, well-being, and heritage protection. By emphasising participatory governance, resource management, and long-term sustainability, these suggestions seek to close current gaps and provide a harmonious framework where contemporary urban growth and cultural heritage coexist together. As for recommendations, application of inclusive planning principles such as- right to engage in the city perspective, annual plans, transparency in decision-making, representation of concerned stakeholders, equal opportunity for all, resources distribution, etc.

In case of Mathura-Vrindavan, some of the location and situation based suggestions are facade treatment of surroundings of Krishna Janmabhoomi entrance based on existing heritage style, installation of water treatment facilities for sacred water bodies, dedicated vendors areas, reforms in land use plan and master plan for heritage site and restriction guidelines, provision of alternate transport routes to heritage sites, significant entry, exit and signage to be provided at site, ghats to be rejuvenated and immediate preparation of ghat management plans, perforated drain covering and regular maintenance and Shiv Taal Kund, redevelop the four main chowks as entry points of Mathura with check gates, heritage sensitive management required and proposal for proper waste disposal and management, street widening, redevelopment of sacred site spaces to manage the influx of pilgrims, tourist, and traffic management. Also, presence of river Yamuna adds value to the sites which needs to be preserved for which, river front development strategy could be a solution as is done in Sabarmati and Patna River front development. Amenities such as playground,

Amusement parks, viewpoints, outdoor sports and basic public services are some provisions for the riverfront project requirements. Some related developments could be restoration of Old Yamuna Bridge, plantation drive for shade and green cover increase leading to sustainability, placing water bodies and trees at effective locations will help to reduce high temperatures of urban heat island effect, streetlights with solar energy and smart sensor technology, solid waste collection and disposal centre at every city zone is required to cover the high footfall of tourists and River Cruise & Cruise Stand will multiply mode of transport and adventure.



Figure 5.60: Mathura ghat showing redevelopment and riverfront development site proposal, source: (Author, 2024)

Puri town lacks in heritage awareness and exposure to large number of people. Introducing cultural policy for vandalising will resolve maintenance issues through PPP model and resilient approach to hazards will help the town grow towards development. Introduction to surface contrast in heritage structures through colour coding, texture will aid specially abled people to move smoothly. A stretch of steps and level differences to create an aesthetic public space towards river Musa which will also prevent water logging in low areas. Marking out heritage maps and yearly action plans are required for heritage sites. Some interventions can be followed from coat cities like Chennai or Vishakhapatnam such as beach exhibitions, fairs and events with water terminal facilities. The city's heritage resilience factor is to be promoted (Hosagrahar, 2019). Tourists shall be allowed entry according to carrying capacity.



Figure 5.2 reference image for proposal for Musa River side, source: Image Generated by AI

In Dwarka, some specific suggestions are creation of artificial edges or barriers for regulated tourist movement, marking proper boundaries of religious heritage sites with limited scope for extension for special purpose. Here the actual and most significant part is the underwater remains of the kingdom of Krishna's Dwarka for which submarines are provided, and more are proposed. Water activities and adventure sports will make earning for locals for tourist going underwater. Awareness campaigns and proposal for heritage education and training for tourism activities like crowd control, fund management, resource management, etc. will monetise the industry and will further contribute to national GDP giving employment opportunities to the youth.



Figure 5.3 Reference for Submarine for Underwater Tours for Tourists for old Dwarka remains of the past, Source: (Yadav, 2023)

Madurai city holds historic significance for which preservation and protection policy becomes very important part. Sanitation and water treatment programs are required under SCM dedicated for Madurai city. Reforms are required for urban mobility policies. Capacity building and training programmes required for application of

artificial intelligence (AI) in tourism industry. Using AI, movement of tourists can be monitored by voice based digital assistance, will guide public for travel routes, public safety through AI-CCTV surveillance.



Figure 5.4 Vaigai River Side Development Proposal Reference (Source: AI generated)

Varanasi has gone through a lot of developmental activities recently, which needs proper maintenance and monitoring, regular upgradation and quick response required in case of complains and suggestions. Regular cleaning of river water and treatment of wastewater and solid waste is to be managed well. Also, for better promotion and exposure worldwide, organising virtual tours of the city will gather more international tourists. Reinforcing programs like ‘Swachhata Abhiyan’ will help to manage waste disposal properly in the heritage and tourist areas of the city. Likewise, as in other city, boating and adventure activities promotion for tourists with a registration fee will provide tourism funds for local authorities.



Figure 5.5: Heritage Development Elements (Source: AI generated)



Figure 5.6 Biometric Tourist Registration/Help Desk (source: AI generated)

Other than that, certain parameters have been considered for the future development process, they are tourist housing, funding and government policies. Transparency in the policy and process is to be implemented through legal arrangements to penalize those authorities that evict slum residents without providing transitional accommodation. Under these strategies are mentioned for all the cities. For instance, in Mathura-Vrindavan,

- **Funding:** Tourist taxes, Resource and infrastructure taxes; application of penalty/fine on heritage exploitation and vandalism; application of penalty/fine on resource misuse/overuse.
- **Tourist housing:** Upgradation works for building infrastructure, survey and renovation work to be undertaken, traffic movement restrictions in heritage area, noise control through plantations, propose animal corridors for their movement
- **Government policies:** Integrated solution-based approach of all the sectors, Inclusive interventions under policies, Inclusive policies for all social groups.

Similarly for Puri town,

- **Funding:** Convergence of schemes at all levels, fund transparency required for smooth functioning in local level specially, team for project execution to be formed for fast completion.
- **Tourist housing:** Charge taxes for heritage accommodation facilities, Use of BIM (building information modelling) tools, Affordable housing for tourists' proposal under SCM or HRIDAY for pilgrims near Puri heritage site.
- **Government policies:** Parks and public garden proposal around the heritage site, more policies are required to work on the housing sector, such as under HRIDAY pilgrimage housing facility, and Integrated scheme for city heritage development in Puri.

In Varanasi,

- **Funding:** Project details breakdown required, Use of smart solutions for heritage restoration works.
- **Tourist housing:** Inclusive and low impactful new development proposals, new methods for mass crowd management need to be applied in the heritage areas, tourist registrations and restrictions need to be implemented.

- **Government policies:** Projects to be aligned to city heritage, schemes to be more inclusive of local people, and more WTPs and international technologies such as water cleaning in Chennai must be implemented.

In Dwarka,

- **Funding:** More policies to be proposed, project report preparation and maintenance, Awareness programs, tourism promotion, Ad campaigns, creation of modern tourist attractions
- **Tourist housing:** Charge taxes for heritage accommodation facilities, more accommodation facilities are required with increase in tourism, and proposal for mass affordable housing projects.
- **Government policies:** Proposals for new and smart policies such as AMRUT, effective execution team required for schemes and strict guidelines for development near tourism sites with restrictions and penalty.

In Madurai,

- **Funding:** More policies to be proposed, project report preparation and maintenance, Awareness programs, tourism promotion, Ad campaigns, creation of modern tourist attractions
- **Tourist housing:** Charge taxes for heritage accommodation facilities, more accommodation facilities are required with increase in tourism, and proposal for mass affordable housing projects.
- **Government policies:** Proposals for new and smart policies such as AMRUT, effective execution team required for schemes and strict guidelines for development near tourism sites with restrictions and penalty.

Table 5.26 site-based recommendations include:

Dwarka



Figure 5.7: Poor Signage in Dwarka

Solution: installation of digital boards



Figure 5.8: Poor Awareness Among People of the heritage underwater due to poor resources

Solution: promotions and exhibition programs for Dwarka tourism and heritage

Varanasi



Figure 5.9: Large Scale Demolition of Local's Houses and unjustified compensation and poor rehab situation

Solution: smooth functioning and better Transparency in people's rehabilitation and sufficient compensation



Figure 5.10: Undefined Streets and Congestion in Tourist Routes of Varanasi

Solution: proposal of smart traffic i.e. ITMS system through the city for smooth movement

Puri



Figure 5.61: Waste Dump Near Heritage Tank in Puri

Solution: approval of waste disposal plans in heritage sites, waste management proposal required



Figure 5.12: Pollution of Water and Degradation of Soil Quality

Solution: regular monitoring and water treatment for heritage water bodies

Madurai



Figure 5.62 Water Body Degradation, Poor Progress of Schemes

Solution: proposal for water treatment plants, regular monitoring committees



Figure 5.634: South Bank of Vaigai River Is Full of Garbage

Solution: proposal and execution of river action plan

Mathura-Vrindavan



Figure 5.64: Poor Water Quality of Shiv Tal Kund

Solution: dedicated water maintenance and cleaning committee formation and functioning



Figure 5.65 Misuse of Heritage Sites Inn Mathura

Solution: strict regulation for use and movement in heritage areas

5.2 Conclusions

The present policies of government of India (GOI), although have been framed in a systematic manner largely, yet contains gaps in policy framing and implementation. The situation is turning as unwillingly the residents must accept all such plans conceived by outsiders and theoreticians those no way has experience or deeper interaction with the local society and culture. Let the authorities realize these and such studies to be taken for making planning strategies (cf. Pal 2015, p. 281). There is a lack of knowledge among the populace in Puri, Mathura-Vrindavan, and Dwarka regarding central projects. The proposals made by the locals include work related to jobs, services, crowd control, monitoring corruption, development, favouring locals, managing

tourists, and encouraging local involvement and participation. As a solution, employment generation for formal employment in tourism sector will end a lot of issues together. Respecting the past, searching for solutions in the present, and making directions for the future, is the need of the hour in our temporal frame. It is obvious from the analysis that among the five cities, Varanasi gets the highest preference be it under HRIDAY, SCM or PRASAD, in case of funds and resources as compared to other cities due to various reasons such as religious, cultural and administrative significance. Also, under AMRUT, it is realized that Madurai gets more attention in every matter of development comparably. The right thing tends to preserve the stability, integrity, and beauty of the site as a living organism. More than 70% of those surveyed showed a strong emotional and cultural bond with nearby historical places. Less than 30% of the general population, however, were aware of official historic protection initiatives (such as ASI listing, HRIDAY, and PRASHAD). However, between 40 and 60 percent of respondents were concerned that the preservation of historical character and spiritual ambience was frequently overlooked in contemporary infrastructural initiatives. More than half (52%) said that uncontrolled visitor inflows caused congestion, pollution, and deterioration of temple precincts, despite the fact that more than 80% supported religious tourism as a crucial economic driver. A resounding 75% of individuals surveyed said they have never been notified or consulted about local planning decisions, including those that directly affect their communities. In order that this heritage becomes a resource for development, it needs to be first documented, then protected, maintained, and finally utilized according to specific heritage guidelines and legislations. Then along with enhanced stakeholder participation and awareness the policy efforts and interventions would become sustainable – socially, culturally, and environmentally. We may separate ourselves from the web of our heritage in the pursuit of modernity and secularism, but it would always be at the cost of our hearts and souls. It is realized that by developing an intimate attachment to religious-heritage sites within the frame of heritage ecology the culture would be advanced in a more harmonious and peaceful way, where dharma ('religion' – the natural order of moral duties) will play a vital role (Singh and Rana 2016, p. p. 67). The lack of a mass awakening and the public's inactivity are hurdles to the progress of 'civic culture: civic sense', while such civic sensibilities are the vital

aspect of a conservation and preservation program. A mass awakening and movement to be initiated to bring the holiness of the cities back to what once it has been in history while keeping absorbed the modernization and smart technology in a way to revive the heritage values and glories of the cities with messages of peace, harmony and human values on the line of UNO Sustainable Development Goals. Analysis of the data collected from the primary survey of the five pilgrimage cities shows the gaps in the sustainable and heritage inclusive development of the pilgrimage cities. Among the five cities, Dwarka shows most poor performance in the path of development based on SDG 11 and heritage inclusivity. Puri in Odisha has implemented several projects successfully but mostly initiated by the local and state authorities. From the schemes' progress it is seen in case of SCM, the Indian program used competition between the various cities that applied for the program to improve the planning quality and encourage innovative funding sources. This resulted in high-quality submissions with specific objectives as the funding was based on project proposals, and the resources were adjusted with the citizens' expressed priorities.

5.3 Way Forward

Recent decades saw a lot of developmental activities in the pilgrimage cities, especially riverside cities like Mathura-Vrindavan, Varanasi, Madurai among others. A lot of it became successful due to effective collaboration between public and private sectors with the support of NGOs for instance in case of 'Swachh Bharat Abhiyan'. Various age groups and segments of society felt inclusive and came out to contribute to making the environment healthier. In case of SCM, after the successful completion of the mission at 31st March 2025, about 94% of projects have been executed in various cities. Fund utilization has increased to 90% with major infrastructural developments such as integrated command and control centers and smart schools. However, disruption and displacement of urban components, project delays were faced during the implementation. Transit networks are now more accessible and available, pilgrimage cities are visited more frequently. As a result, pilgrimage has evolved from its ancient form in India to become an epitome at the nexus of spirituality, travel, and tourism. Legacy preservation is essential to a city's long-term

prosperity. In addition, community participation during legacy preservation can result in workable outputs. Coherent plans for social and economic growth should include the preservation of old towns and other historic urban regions. The town or metropolitan area's historic character, as well as all the physical and spiritual components that represent this character, should be among the qualities that are maintained. In India, the emphasis is on enhancing the physical infrastructure and giving towns and cities access to necessities. The current spatial layouts should be observed whether new buildings are being built or old ones are being modified. Taking inspiration from the past, dreams of the future, the present is the time to act.

Scope of future research -

The key to future growth and advancement is broadening the multidisciplinary knowledge of how resilient planning frameworks may incorporate cultural heritage, urban infrastructure, and community well-being. Future research can concentrate on creating participatory models that involve local communities, religious institutions, and policymakers in decision-making, as well as on creating measurable indicators to evaluate the sociocultural and ecological effects of heritage-led urban regeneration. Sacred precincts' carrying capacities and land-use changes can be assessed using sophisticated spatial analytics, digital mapping, and simulation-based modeling. The Indian context can be further enhanced by comparative foreign study on heritage city financing strategies and governance procedures. Furthermore, in order to assess the efficacy of programs like HRIDAY, AMRUT, and PRASAD and to guide adaptive policy frameworks, longitudinal studies looking at their performance after implementation would be crucial. In order to manage India's pilgrimage landscapes in a way that is inclusive, data-driven, and context-sensitive, future research should generally seek to close the gap between heritage conservation and sustainable urbanism. Let us hope that the caravan would lengthen, and a time will come, sooner than later, to make pilgrimage cities in India, what they deserve to be. It is our responsibility towards the environment to protect its resources, consume efficiently, practice sustainability and preserve our heritage for the generations to come.

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ANNEXURES

Annexures-I

A. Questionnaires

A set of three questionnaires are prepared for the primary survey for all the cities considering the broader user diversity of pilgrimage cities i.e local residents of the place, tourists (devotees, pilgrims) and government officials. Likert scales include a variety of response choices that let participants indicate how much they agree, are satisfied, or have an opinion on a given statement or query. Usually, as per the Likert survey scale, there are either five or seven point. "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly Agree" are typical choices on a 5-point scale. "Somewhat Agree" and "Somewhat Disagree" options are sometimes included on 7-point scales, offering greater detail. In case of tourists' questionnaire, a forced choice or four point Likert scale is provided to make the response more decisive on the behaviour patterns, usage and service feedback.

a) Residents

1. Name of Respondent:
2. Age:
3. Gender:
4. Occupation:
5. Are you aware of the various ongoing development schemes by GOI-HRIDAY, AMRUT, PRASHAD, AND SMART CITY MISSION? Yes/No
6. Development works under HRIDAY, AMRUT, PRASHAD, AND SMART CITY MISSION issustainable and heritage inclusive.
 - A) Strongly Agree
 - B) Agree
 - C) Neutral
 - D) Disagree
 - E) Strongly Disagree
7. Overall impact of the HRIDAY scheme on the heritage sites/temples in Mathura Vrindavan is evidentin the recent development works
 - A) Strongly Agree
 - B) Agree
 - C) Neutral
 - D) Disagree
 - E) Strongly Disagree

8. Availability and quality of basic services (water supply, sewerage, sanitation, green parks, prevention to water logging attention to air quality under the AMRUT scheme in Mathura Vrindavan have improved.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

9. Tourist influx has increased after the development works under the above schemes.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

10. Economic condition of Mathura Vrindavan has improved in the last 5 years.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

11. Pollution has increased in the last five years, including pollution due to restoration works.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

12. You all were involved in the recent development schemes and mission by Govt. of India.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

13. Culture, religious beliefs, and heritage are considered in the development process.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

14. Smart solutions like CCTV cameras are installed in enough numbers for monitoring and safety.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

15. Sufficient parking lots, solid waste management, treatment, street furniture, and shifting of hanging wires, poles, and transformers are done.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

16. Restoration works for heritage/ historic areas, ghat areas, temple areas, and kunds have been done.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

17. Road networks to avoid congestion, the condition of roads, and pedestrian pathways have improved.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

18. Safe and affordable public transport system eg. Battery-operated vehicles are operational with smart metering.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

19. Well-planned pedestrianization is facilitated along with walkable community development.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

20. Promotion of local skill development programs and local art and crafts are visible.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

21. People are willing to adapt to change for better future.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

22. There is a sense of fear related to proposed development works. e.g., the corridor proposal the for BankeBihari complex.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

23. Schemes and missions for housing for all are beneficial for the poor, including people living in slums.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

24. Transit-oriented development (TOD), an intelligent traffic management system is incorporated in Mathura Vrindavan.

- A) Strongly Agree
- B) Agree
- C) Neutral
- D) Disagree
- E) Strongly Disagree

25. What are the most important four problems (development) issues in your city?

.....

26. What suggestions do you have to further improve the HRIDAY and PRASHAD schemes in Mathura Vrindavan?

.....
 ...

 ...

 ...

27. What suggestions do you have to further improve the AMRUT and Smart City Mission scheme in Mathura Vrindavan?

.....
 ...

 ...

SURVEY- PILGRIM TOURISTS (MULTIPLE CHOICES ALLOWED)

1. Name:
2. Gender: a. Male b. Female c. Other
3. Age (in years)
 - a. 18-29
 - b. 30-45
 - c. 46-56
 - d. 57 and above
4. How often do you visit pilgrimage cities in India?
 - a. First timer
 - b. Regularly (more than once a year)
 - c. Occasionally (once a year)
 - d. Rarely (less than once a year)
5. What factors do you consider before choosing a pilgrimage city to visit?
 - a. Religious significance
 - b. Accessibility
 - c. Local culture and cuisine
 - d. Safety and security.
6. Have you noticed any sustainable and heritage inclusive development initiatives under HRIDAY, AMRUT, PRASHAD, AND SMART CITY MISSION? Yes/No. If yes, which of the below?
 - a. Changes in sustainability practices- Waste management and recycling.
 - b. Satisfaction level with the current infrastructure and transportation facilities.
 - c. Importance of preserving the cultural heritage while implementing sustainability measures.
 - d. Sustainable tourism activities.
7. Would you recommend Mathura Vrindavan as a tourist destination to others?
 - a. Yes
 - b. No
 - c. Maybe yes
 - d. Maybe Not

8. Who all can help in attaining sustainable and heritage inclusive development initiatives and implementation?
 - a. Government
 - b. Residents
 - c. Local communities and businesses.
 - d. Tourists
9. Which other pilgrimage city/cities have you visited?
 - a. Varanasi
 - b. Haridwar
 - c. Amritsar
 - d. Ayodhya
10. How would you rate the level of heritage inclusivity in the pilgrimage city/cities you visited?
 - a. Very inclusive
 - b. Somewhat inclusive
 - c. Not at all-inclusive
 - d. Not aware
11. What factors contribute to heritage inclusivity in pilgrimage cities?
 - a. Preservation of historical monuments and buildings
 - b. Accessible transportation options
 - c. Multilingual signage and information
 - d. Cultural and religious sensitivity training for local businesses and tour guides, inclusive tourism marketing, and outreach
12. How important do you think heritage inclusivity is for the development of pilgrimage cities in India?
 - a. Very important
 - b. Somewhat important
 - c. Not important at all
 - d. Not aware
13. Most important factors to be considered in the sustainable and

heritage-inclusivedevelopment of pilgrimage cities of India.

- a. Strategies to be adopted to preserve heritage sites, also allowing for moderndevelopment in pilgrimage cities
- b. Tourism
- c. Technology and innovation
- d. Practices from other countries

14.Following can be the measures to attain sustainable and heritage-inclusivedevelopment in Mathura Vrindavan-

- a. infrastructure and facilities be developed to ensure their accessibility to all
- b. government and private sector work together.
- c. community engagement and participation.
- d. education and awareness-raising

15.Benefits of sustainable and heritage-inclusive development of pilgrimage cities.

- a. To conserve our rich culture and religious cities.
- b. To promote tourism
- c. To include the needs and aspirations of the locals
- d. To control pollution.

RATE THE PROGRESS OF THE BELOW-MENTIONED WORKS UNDER THE SCHEMES OF HRIDAY, PRASHAD, AMRUT, AND SMART CITY MISSION						
16	Physical Infrastructure	O	O	O	<u>O</u>	O
17	Institutional Infrastructure	O	O	O	O	O
18	Economic Infrastructure	O	O	O	O	O
19	Social Infrastructure for revitalizing the soul of Heritage City.	O	O	O	O	O
20	Ease of visiting the temples and places of religious significance	O	O	O	O	O
21	Heritage Revitalization linked to Service Provision.	O	O	O	O	O
22	Websites, IEC, CCTV Cameras, and Wi-fi	O	O	O	O	O

23	City maps and brochures, Digital Display, Wi-Fi-Access Zone	O	O	O	O	O
24	City heritage infrastructure management web page, mobile apps.	O	O	O	O	O
25	Tourist facilities-stay, food, sanitation, toilets, water supply, drinking water, electricity, parking, solid waste management, street furniture, shifting wires, poles, transformers, water logging on roads, improving air quality, reducing per capita environmental impacts	O	O	O	O	O
26	Increase accessibility-roads, digital heritage	O	O	O	O	O
27	City Information-Signage and digital information Kiosks.	O	O	O	O	O
28	Brochures for historic and new construction.	O	O	O	O	O
29	GIS mapping of historical locations/ tourist maps and routes.	O	O	O	O	O
30	Protection of Heritage/ historic areas, ghats temple areas, kunds.	O	O	O	O	O
31	Heritage monuments and links of service provisions.	O	O	O	O	O
32	Improvement of roads/ pathways, public transportation, parking, heritage walks, fair and festival grounds.	O	O	O	O	O
33	Pedestrianization, solar/battery-operated vehicles.	O	O	O	O	O
34	Skill development (guides, local artisans, and women)	O	O	O	O	O
35	Promotion of local heritage industry	O	O	O	O	O

36	Heritage-sensitive building codes, and urban design regulations.	O	O	O	O	O
37	Benefitting locals, artisans, and tourists, employment, sustainable factors, and people's willingness to adapt to change.	O	O	O	O	O
38	Pollution control during and after completion of the restoration.	O	O	O	O	O
39	Objectives aligned with the culture and beliefs of the local people	O	O	O	O	O
40	Reforms for the compromised heritage of religious temples	O	O	O	O	O
41	Housing and inclusiveness, affordable housing for all, upgrading slums, resource depletion management, and interactions.	O	O	O	O	O
42	Helping people living under unfavorable conditions	O	O	O	O	O
43	Providing sustainable measures along with the technology boom.	O	O	O	O	O
44	Clean and sustainable environment.	O	O	O	O	O
45	Application of 'Smart' Solutions	O	O	O	O	O
46	Focus on sustainable and inclusive development for compact areas	O	O	O	O	O
47	Sustainable public transport systems, road safety, walkable localities and services, reducing congestion, road network, pedestrians, cyclists, Transit Oriented Development (TOD), Smart Solutions (intelligent traffic management system), smart metering.	O	O	O	O	O

48	Application of Smart Solutions, e-groups, online monitoring, and cyber tour of worksites.	O	O	O	O	O
49	Good E-Governance, citizen participation, online services, security, health, and education.	O	O	O	O	O
50	Area-based development, retrofit, redeveloping green fields, pan-city feature. Preserve and develop open spaces.	O	O	O	O	O
51	Inclusive and sustainable urbanization, flexibility in land use and building bye-laws, participation of civil society. Economic, social, and environmental links between urban rural areas.	O	O	O	O	O

SURVEY QUESTIONNAIRE FOR GOVT.OFFICIALS

Rate the progress done in the sustainable development of heritage-sensitive infrastructure under the						
NAME:						
DESIGNATION:						
1. Rate the progress done in the sustainable development of heritage-sensitive infrastructure under the HRIDAY & Smart city mission.						
		Excellent Progress	Good Progress	Average Progress	Not Satisfactory	No Progress
a	Physical Infrastructure	O	O	O	O	O
b	Institutional Infrastructure	O	O	O	O	O
c	Economic Infrastructure	O	O	O	O	O
d	Social Infrastructure for revitalizing the soul of Heritage City.	O	O	O	O	O
2. Rate the documentation planning, development, implementation, and of heritage asset inventory (Tangible, Intangible natural, cultural, living, and built)						
a	Listing, recording, documentation, and GIS mapping.	O	O	O	O	O
b	Development of Heritage Management Plan	O	O	O	O	O
c	Heritage Revitalization linked to Service Provision.	O	O	O	O	O
d	Profiling of infrastructure service at/around heritage areas	O	O	O	O	O
3. Rate the progress in infrastructure provisioning and service delivery in historic city core areas, implementation, and enhancement of services i.e., sanitation and use of technologies for tourist facilities/amenities- ICT tools, CCTV, etc.						
a	Websites, IEC, CCTV Cameras, and Wi-fi	O	O	O	O	O

b	City maps and brochures, Digital Display, Wi-Fi-Access Zone	O	O	O	O	O
c	City heritage infrastructure management web page, mobile apps.	O	O	O	O	O
d	Services, sanitation, toilets, water supply, drinking water, electricity, parking, solid waste management, street furniture, shifting wires, poles, transformers, water logging on roads, improving air quality, reducing per capita environmental impacts	O	O	O	O	O
4. Rate heritage management linkages to the city planning works as below.						
a	Increase accessibility-roads, digital heritage	O	O	O	O	O
b	City Information-Signage and digital information Kiosks.	O	O	O	O	O
c	Brochures for historic and new construction.	O	O	O	O	O
d	GIS mapping of historical locations/ tourist maps and routes.	O	O	O	O	O
5. Rate the works done for urban heritage adaptive rehabilitation and maintenance, preservation, revitalization, and conservation of natural, cultural, and built heritage for tourists using technologies for historic buildings retrofitting as below-						
a	Protection of Heritage/ historic areas, ghats temple areas, kunds.	O	O	O	O	O
b	Heritage monuments and links of service provisions.	O	O	O	O	O

c	Roads/ pathways, public transportation, parking, heritage walks, fair and festival grounds.	O	O	O	O	O
d	Pedestrianization, solar/battery-operated vehicles.	O	O	O	O	O
6. Rate the enhancement of inclusive heritage-based industry, tangible economic activities for livelihoods, and skill development as follows						
a	Projects funded by stakeholders and the private sector	O	O	O	O	O
b	Skill development (guides, local artisans, and women)	O	O	O	O	O
c	Promotion of local heritage industry	O	O	O	O	O
d	Heritage-sensitive building codes, and urban design regulations.	O	O	O	O	O
7. Rate the significant works done under the scheme Prashad in the following spheres						
a	Benefitting locals, artisans, and tourists, employment, sustainable factors, and people's willingness to adapt to change.	O	O	O	O	O
b	Pollution control during and after completion of the restoration.	O	O	O	O	O
c	Objectives aligned with the culture and beliefs of the local people	O	O	O	O	O
d	Reforms for the compromised heritage of religious temples	O	O	O	O	O

8. Rate the impact of the various programs significant in						
a	Housing and inclusiveness, affordable housing for all, upgrading slums, resource depletion management, and interactions.	O	O	O	O	O
b	Helping people living under unfavourable conditions	O	O	O	O	O
c	Providing sustainable measures along with the technology boom.	O	O	O	O	O
9. Rate the significant outcomes of the above GOI schemes in your city						
a	Clean and sustainable environment.	O	O	O	O	O
b	Application of 'Smart' Solutions	O	O	O	O	O
c	Focus on sustainable and inclusive development for compact areas	O	O	O	O	O
d	Sustainable public transport systems, road safety, walkable localities and services, reducing congestion, road network,	O	O	O	O	O
	pedestrians, cyclists, Transit Oriented Development (TOD), Smart Solutions (intelligent traffic management system), smart metering.					
10. Rate the significant works of the aforementioned schemes in Mathura Vrindavan						
a	Application of Smart Solutions, e-groups, online monitoring, and cyber tour of worksites.	O	O	O	O	O

b	Good E-Governance, citizen participation, online services, security, health, and education.	O	O	O	O	O
c	Area-based development, retrofit, redeveloping green fields, pan-city feature. Preserve and develop open spaces.	O	O	O	O	O
d	Inclusive and sustainable urbanization, flexibility in land use and building bye-laws, participation of civil society. Economic, social, and environmental links between urban rural areas.	O	O	O	O	O

Annexures-II

B. Primary Survey Response

Madurai

Slur	Age	Gender	Designation	Infrastructure revitalizing the Heritage City	GIS mapping, Heritage Management Plan, Revitalization Service	IEC, CCTV Camera, Digital Display, Signage, Services	Sustainable public transport system,TOD	Promotion of local heritage industry	Clean, sustainable environment,Open spaces	'Smart' Solutions	E-Governance, citizen participation, security, health, and education.	Area-based development
Eng. Balagurunathan	52	M	CORP Consultants	Good Progress	Good Progress	Average Progress	Good Progress	Excellent Progress	Good Progress	Average Progress	Good Progress	Average Progress
AE Amardeep	45	M	Asst. Engineer,	Good Progress	Average Progress	Good Progress	Excellent Progress	Good Progress	Excellent Progress	Good Progress	Average Progress	Good Progress
Ar.RM Valliyappan	48	M	Architect	Excellent Progress	Excellent Progress	Average Progress	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Good Progress
Gayatri Nanda	32	F	Architect	Excellent Progress	Good Progress	Excellent Progress	Average Progress	Excellent Progress	Good Progress	Average Progress	Excellent Progress	Excellent Progress
Professor Balaji	58	M	Professor	Average Progress	Good Progress	Good Progress	Good Progress	Excellent Progress	Excellent Progress	Good Progress	Good Progress	Good Progress
Vishnu	38	M	Admin,MS	Good Progress	Good Progress	Average Progress	Excellent Progress	Good Progress	Good Progress	Excellent Progress	Good Progress	Average Progress
Gokul	40	M	Admin,MS	Good Progress	Average Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Excellent Progress

Madurai-Govt.Officials

NAME	SEX	AGE	Hereditary, sustainable and heritage inclusive development initiatives undertaken, AMRUT, PRASHAD, AND RCM	Sustainable and heritage inclusive development initiatives and implementation in the field	Living of heritage inclusive	Factors contributing heritage inclusive	Steps to be considered in the sustainable and heritage inclusive development	Measures to attain sustainable and heritage inclusive development in Madurai	Physical Infrastructure: Economic, Social, Infrastructure, Use of existing, temples,	Heritage Revitalization: Religious structures, Service Providers	Smart Solutions: GIS mapping, City maps, Digital Display, IEC, CCTV Camera, Smart solutions,Sustainable Public Transport,TOD	Self development	Smart and sustainable environment	Living and sustainable	Good E-Governance: citizen participation	Area-based development,open spaces,Public building type,Area	Signage and suggestions
Veerthi	M	38	Preserving the cultural heritage with	Government	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Government and private	Excellent Progress	Good Progress	Average Progress	Average Progress	Average Progress	Good Progress	Non Satisfactory	Average Progress	Services
Arunk	M	34	Satisfaction level of with infrastructure	Local communities	Somewhat inclusive	Accessible transportation options	Technology and infrastructure	Government and private	Good Progress	Excellent Progress	Good Progress	Good Progress	Good Progress	Average Progress	Non Satisfactory	Average Progress	Services
Shobana	F	29	Sustainable tourism activities	Government	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Community engagement	Excellent Progress	Good Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Average Progress	Good Progress	Services
Vinuk	M	31	Preserving the cultural heritage with	Local communities	Somewhat inclusive	Accessible transportation options	Technology and infrastructure	Community engagement	Good Progress	Average Progress	Good Progress	Non Satisfactory	Good Progress	Good Progress	Good Progress	Average Progress	Good Progress
Kalir	M	42	Satisfaction level of with infrastructure	Government	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Community engagement	Good Progress	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Services
Surya	F	32	Sustainable tourism activities	Residents	Somewhat inclusive	Multiplage signage and information	Technology and infrastructure	Government and private	Good Progress	Good Progress	Non Satisfactory	Good Progress	Good Progress	Non Satisfactory	Good Progress	Good Progress	Services
Rajul	F	30	Preserving the cultural heritage with	Government	Not aware	Preservation of historical monuments	Strategies to be adopted	Government and private	Good Progress	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress	Good Progress	Average Progress	Services
Neena	F	35	Satisfaction level of with infrastructure	Local communities	Somewhat inclusive	Cultural and religious sensibility training	Technology and infrastructure	Government and private	Good Progress	Excellent Progress	Good Progress	Non Satisfactory	Good Progress	Average Progress	Average Progress	Non Satisfactory	Traffic management
Riddha	F	33	Preserving the cultural heritage with	Government	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Government and private	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Non Satisfactory	Good Progress	Good Progress
Ami	M	44	Satisfaction level of with infrastructure	Residents	Not aware	Accessible transportation options	Technology and infrastructure	Community engagement	Good Progress	Non Satisfactory	Good Progress	Non Satisfactory	Good Progress	Good Progress	Good Progress	Average Progress	Services
Radha	M	36	Sustainable tourism activities	Local communities	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Community engagement	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Average Progress	Non Satisfactory	Services
Malikah	M	54	Preserving the cultural heritage with	Government	Somewhat inclusive	Accessible transportation options	Finance	Community engagement	Good Progress	Average Progress	Non Satisfactory	Non Satisfactory	Good Progress	Average Progress	Non Satisfactory	Good Progress	Traffic management
Praveen	M	40	Satisfaction level of with infrastructure	Residents	Not aware	Preservation of historical monuments	Strategies to be adopted	Community engagement	Non Satisfactory	Good Progress	Average Progress	Average Progress	Average Progress	Good Progress	Good Progress	Average Progress	Services
Leen	M	34	Preserving the cultural heritage with	Government	Somewhat inclusive	Accessible transportation options	Finance	Community engagement	Good Progress	Excellent Progress	Good Progress	Good Progress	Good Progress	Non Satisfactory	Non Satisfactory	Average Progress	Conservation
Nishita	M	37	Satisfaction level of with infrastructure	Residents	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Community engagement	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Average Progress	Services
Manisha	F	34	Sustainable tourism activities	Government	Not aware	Accessible transportation options	Finance	Infrastructure and	Good Progress	Average Progress	Non Satisfactory	Non Satisfactory	Good Progress	Good Progress	Good Progress	Average Progress	Traffic management
Bhoomi	F	29	Preserving the cultural heritage with	Local communities	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Infrastructure and	Non Satisfactory	Good Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Non Satisfactory	Average Progress	Services
Aradhana	F	34	Satisfaction level of with infrastructure	Residents	Somewhat inclusive	Accessible transportation options	Practice from other cities	Infrastructure and	Good Progress	Non Satisfactory	Good Progress	Good Progress	Good Progress	Non Satisfactory	Non Satisfactory	Average Progress	Services
Aradh	F	33	Sustainable tourism activities	Government	Not aware	Preservation of historical monuments	Strategies to be adopted	Infrastructure and	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Services
Aradh	F	42	Sustainable tourism activities	Local communities	Very inclusive	Cultural and religious sensibility training	Practice from other cities	Infrastructure and	Good Progress	Non Satisfactory	Good Progress	Good Progress	Good Progress	Non Satisfactory	Non Satisfactory	Non Satisfactory	Good management
Beeth	M	32	Preserving the cultural heritage with	Government	Very inclusive	Preservation of historical monuments	Strategies to be adopted	Infrastructure and	Non Satisfactory	Good Progress	Average Progress	Average Progress	Average Progress	Good Progress	Average Progress	Average Progress	Conservation
Kalika	F	24	Sustainable tourism activities	Residents	Very inclusive	Cultural and religious sensibility training	Practice from other cities	Infrastructure and	Good Progress	Non Satisfactory	Non Satisfactory	Non Satisfactory	Good Progress	Average Progress	Non Satisfactory	Non Satisfactory	Services
Parvati	F	33	Satisfaction level of with infrastructure	Local communities	Not aware	Preservation of historical monuments	Strategies to be adopted	Government and private	Non Satisfactory	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Good Progress	Traffic management
Neeka	F	31	Sustainable tourism activities	Government	Very inclusive	Cultural and religious sensibility training	Finance	Government and private	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Non Satisfactory	Good Progress	Average Progress	Services
Preya	F	20	Preserving the cultural heritage with	Residents	Not aware	Preservation of historical monuments	Strategies to be adopted	Infrastructure and	Excellent Progress	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Non Satisfactory	Conservation
Aranya	F	42	Sustainable tourism activities	Local communities	Somewhat inclusive	Accessible transportation options	Technology and infrastructure	Infrastructure and	Good Progress	Non Satisfactory	Non Satisfactory	Non Satisfactory	Good Progress	Good Progress	Average Progress	Good Progress	Services
Aradh	F	32	Preserving the cultural heritage with	Government	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Infrastructure and	Non Satisfactory	Good Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Good Progress	Average Progress	Services
Aradh	F	29	Satisfaction level of with infrastructure	Local communities	Not aware	Accessible transportation options	Technology and infrastructure	Infrastructure and	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Average Progress	Non Satisfactory	Non Satisfactory	Conservation
Aradh	F	32	Preserving the cultural heritage with	Government	Somewhat inclusive	Preservation of historical monuments	Strategies to be adopted	Infrastructure and	Non Satisfactory	Good Progress	Average Progress	Average Progress	Good Progress	Good Progress	Average Progress	Average Progress	Services

Madurai-tourists

NAME	Age	Gender	Occupation	Awareness-AMRUT AND SCM	Are the works - AMRUT and SCM impactful?	Improved - Services	Increase in Tourist influx,economy	Increase in Pollution levels?	Public participation	Inclusion of Culture, religious beliefs, and heritage	Incorporation of Smart solutions	Restoration works for heritage areas.	Public transport system,TOD	Promotion of local skill development	Willingness to change/Fear	Housing for all
Gurushekhar	34	M	Shopkeeper	Yes	Agree	Disagree	Agree	Strongly Agree	Disagree	Agree	Agree	Agree	Agree	Agree	Disagree	Agree
Meena	28	F	Shopkeeper	No	Neutral	Neutral	Strongly Agree	Agree	Strongly Disagree	Disagree	Agree	Agree	Strongly Agree	Agree	Disagree	Disagree
Nitin Jain	30	M	Shopkeeper	YES	Agree	Disagree	Agree	Strongly Agree	Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Agree
Uma Maheshwari	35	F	Shopkeeper	Yes	Agree	Agree	Strongly Agree	Agree	Disagree	Agree	Agree	Disagree	Disagree	Agree	Disagree	Disagree
Rajeshwari	27	F	Shopkeeper	No	Agree	Neutral	Neutral	Strongly Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Agree
Kuduraja	25	M	Autowala	Yes	Neutral	Disagree	Strongly Disagree	Neutral	Disagree	Neutral	Strongly Disagree	Agree	Agree	Disagree	Agree	Disagree
Saravanan	26	M	Chaiwala	Yes	Agree	Neutral	Agree	Strongly Agree	Disagree	Agree	Agree	Strongly Agree	Agree	Agree	Disagree	Disagree
Manimaran	54	M	shoe keeper	No	Agree	Disagree	Strongly Disagree	Neutral	Neutral	Strongly Agree	Agree	Agree	Disagree	Agree	Disagree	Agree
Sivakumar	45	M	Autowala	Yes	Disagree	Disagree	Neutral	Strongly Agree	Neutral	Neutral	Agree	Disagree	Agree	Agree	Agree	Disagree
Mrugan	40	M	Labourer	No	Agree	Agree	Strongly Disagree	Strongly Agree	Disagree	Agree	Agree	Agree	Strongly Agree	Neutral	Disagree	Disagree
Saravana	27	F	Cleaner	Yes	Disagree	Disagree	Disagree	Agree	Agree	Disagree	Strongly Agree	Agree	Agree	Agree	Neutral	Agree
Mahalakshmi	45	F	Cleaner	No	Agree	Disagree	Strongly Disagree	Strongly Agree	Strongly Disagree	Agree	Agree	Strongly Agree	Agree	Disagree	Disagree	Disagree
Siddharth	34	M	Tourist guide	Yes	Disagree	Agree	Strongly Agree	Strongly Agree	Agree	Agree	Agree	Strongly Agree	Neutral	Agree	Agree	Disagree
Karthik	28	M	hotelier	Yes	Neutral	Disagree	Disagree	Strongly Agree	Disagree	Disagree	Strongly Agree	Agree	Agree	Neutral	Disagree	Agree
Saranya	36	F	staff	No	Agree	Disagree	Agree	Strongly Agree	Disagree	Agree	Agree	Strongly Agree	Agree	Disagree	Disagree	Disagree
Moorthy	39	M	Autowala	Yes	Agree	Agree	Strongly Disagree	Agree	Neutral	Agree	Strongly Agree	Strongly Agree	Agree	Agree	Disagree	Disagree
Poorani	34	F	staff	Not Aware	Neutral	Neutral	Agree	Strongly Disagree	Disagree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Agree	Agree	Agree
Selvaganapathi	28	M	Tourist guide	Yes	Disagree	Disagree	Agree	Agree	Disagree	Agree	Agree	Agree	Agree	Strongly Agree	Disagree	Disagree

Madurai-Residents

Puri

name	Age	Gender	Designation	Infrastructure revitalizing the Heritage City	GIS mapping, Heritage Management Plan, Revitalization Service	IFC, CCTV Cameras, Digital Display, Signage, Services	Sustainable public transport system,TOD	Promotion of local heritage industry	Clean, sustainable environment,Open spaces	'Smart' Solutions	E-Governance, citizen participation, security, health, and education.	Area-based development
Tanmay KumarMohanty	62	M	Investigator,PKDA	Average Progress	Good Progress	Average Progress	Excellent Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Good Progress
Purna Chandra Gochhikar	56	M	Research Officer	Average Progress	Average Progress	Average Progress	Good Progress	Excellent Progress	Excellent Progress	Average Progress	Average Progress	Average Progress
Dr.Lalaendu Sahu	52	M	Secretary	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Average Progress
Nagen Babu	48	M	Research Officer	Excellent Progress	Not Satisfactory	Good Progress	Average Progress	Average Progress	Excellent Progress	Average Progress	Average Progress	Good Progress
Sushant Kumar Bhoi	42	M	Astt.Townplanner,Municipality Puri	Average Progress	Good Progress	Average Progress	Excellent Progress	Good Progress	Good Progress	Good Progress	Good Progress	Average Progress
Shiv Prasadjana	36	M	Section Officer,Municipality Puri	Good Progress	Average Progress	Excellent Progress	Good Progress	Average Progress	Good Progress	Excellent Progress	Average Progress	Average Progress
Solanki Babu	45	M	Astt.Engineer, MunicipalityPuri	Excellent Progress	Average Progress	Good Progress	Average Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Good Progress
Jyotiranan Pradhan	47	M	Field Inspector,Municipality Puri	Average Progress	Good Progress	Average Progress	Good Progress	Average Progress	Excellent Progress	Good Progress	Average Progress	Average Progress
Aditya Narayan Pradhan	28	M	Planning department intern	Good Progress	Average Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Good Progress	Good Progress	Average Progress
S.Routray	48	M	Astt.Executive Engineer,	Excellent Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Excellent Progress	Good Progress	Average Progress	Good Progress
Devabrata Sarangi	32	M	Executive Engineer,	Good Progress	Average Progress	Good Progress	Excellent Progress	Good Progress	Excellent Progress	Excellent Progress	Good Progress	Average Progress

PURI- GOVT.OFFICIALS

NAME	SEX	AGE	Disseminate sustainable and heritage initiative development initiative under HRIDAY, AMRUT, PRASHAD, AND SCM	Sustainable and heritage initiative development initiative and implementation to be done by	Practices to be considered in the sustainable and heritage initiative development	Measures to conserve and heritage initiative development, revitalization, heritage, and	Physical, Economic, Social Infrastructure, and other facilities	Tourist facilities, mapping City, Digital Mapping, GIS, CCTV, Green, Smart initiatives, Sustainable Public transport, etc.	Heritage development	Conservation and environment	Planning and other issues	Good Governance, citizen participation	Area based development, governance, Public building, etc.	Major issues and suggestions
Aruna	F	33	Preserving the cultural heritage with sustainability measures	Government	Strategies to be adopted to preserve heritage sites & also allowing for modern development in pilgrimage sites	government and public sector work	Excellent Progress	Excellent Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Good Management
Ramraj Kulkarni	F	22	Satisfaction level of work	Government	Practices from other countries	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Average Progress	Average Progress	Good Progress	River Mass cleanliness
Subica	F	48	Sustainable tourism activities	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Excellent Progress	Excellent Progress	Average Progress	Excellent Progress	Good Progress	Average Progress	Good Progress	Traffic congestion
Vinay Sachdev	F	45	Preserving the cultural heritage with sustainability measures	Government	Tourism	government and public sector work	Good Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Good Progress	Average Progress	Relocation of shops
Ashish	M	28	Sustainable tourism activities	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Excellent Progress	Average Progress	Traffic congestion
Shobanji Kulkarni	M	55	Satisfaction level of work	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Average Progress	Average Progress	Good Progress	Traffic congestion
P. Ramesh	M	33	Preserving the cultural heritage with sustainability measures	Government	Practices from other countries	government and public sector work	Excellent Progress	Excellent Progress	Good Progress	Excellent Progress	Average Progress	Good Progress	Good Progress	Relocation of shops
Sangeeta	F	30	Sustainable tourism activities	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Good Progress	Average Progress	Average Progress	Good Progress	Excellent Progress	Average Progress	River Mass cleanliness
Kalpna Datta	F	47	Satisfaction level of work	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Excellent Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Stretch khata
Apurva	F	40	Preserving the cultural heritage with sustainability measures	Government	Tourism	government and public sector work	Excellent Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Average Progress	Good Progress	Good Management
Aditi Chakraborty	F	39	Sustainable tourism activities	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Good Progress	Average Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	River Mass cleanliness
Rajendra Kumar Dey	M	43	Preserving the cultural heritage with sustainability measures	Local communities and businesses	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Excellent Progress	Average Progress	Traffic congestion
Anshu	M	38	Satisfaction level of work	Residents	Tourism	government and public sector work	Excellent Progress	Good Progress	Average Progress	Average Progress	Good Progress	Average Progress	Good Progress	Stretch khata
Tanya	F	47	Preserving the cultural heritage with sustainability measures	Government	Practices from other countries	government and public sector work	Good Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Good Management
Vaibhavi	F	32	Waste management and recycling	Local communities and businesses	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Excellent Progress	Excellent Progress	Stretch khata
Sham	F	56	Satisfaction level of work	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Excellent Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Stretch khata
Vedika	F	32	Preserving the cultural heritage with sustainability measures	Local communities and businesses	Tourism	government and public sector work	Good Progress	Excellent Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Good Management
Kirti	F	28	Sustainable tourism activities	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Excellent Progress	Good Progress	River Mass cleanliness
Shikha	M	39	Preserving the cultural heritage with sustainability measures	Residents	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Excellent Progress	Excellent Progress	Good Progress	Excellent Progress	Good Progress	Excellent Progress	Average Progress	Stretch khata
Mamta	M	29	Sustainable tourism activities	Local communities and businesses	Tourism	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Good Progress	Stretch khata
Priya	F	33	Preserving the cultural heritage with sustainability measures	Government	Practices from other countries	government and public sector work	Good Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Stretch khata
Iva	F	8	Satisfaction level of work	Residents	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Excellent Progress	Good Progress	Average Progress	Good Progress	Average Progress	Good Progress	Good Progress	Traffic congestion
Ira	F	15	Waste management and recycling	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Excellent Progress	Average Progress	Excellent Progress	Good Progress	Good Progress	Good Progress	River Mass cleanliness
Sanya	M	34	Preserving the cultural heritage with sustainability measures	Local communities and businesses	Tourism	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Good Progress	Good Management
Anita	M	16	Waste management and recycling	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Good Progress	Traffic congestion
Rajesh	M	30	Preserving the cultural heritage with sustainability measures	Residents	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Excellent Progress	Excellent Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	River Mass cleanliness
Khushi	M	18	Waste management and recycling	Government	Strategies to be adopted to preserve heritage sites & also	government and public sector work	Good Progress	Good Progress	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress	River Mass cleanliness
Kirti	M	18	Preserving the cultural heritage with sustainability measures	Local communities and businesses	Practices from other countries	government and public sector work	Good Progress	Excellent Progress	Good Progress	Good Progress	Good Progress	Excellent Progress	Good Progress	River Mass cleanliness

PURI TOURISTS

Name	Age	Gender	Occupation	Awareness- HRIDAY, AMRUT, PRASHAD, AND SCM	Are the works - HRIDAY, AMRUT, PRASHAD AND SCM impactful?	Improved - Services	Increase in Tourist influx, economy	Increase in Pollution levels?	Public participation	Inclusion of Culture, religious beliefs, and heritage	Incorporation of Smart solutions	Restoration works for heritage areas.	Public transport system, TOD	Promotion of local skill development	Willingness to change/Fear	Housing for all
Padmanav	43	M	Pandit	No	Disagree	Agree	Agree	Agree	Strongly Disagree	Neutral	Agree	Agree	Agree	Disagree	Disagree	Agree
Nikantha	38	M	Guide	No	Neutral	Neutral	Strongly Agree	Agree	Strongly Disagree	Disagree	Agree	Agree	Strongly Agree	Disagree	Neutral	Neutral
Ramchandar	50	M	Labourer	No	Agree	Agree	Agree	Strongly Agree	Disagree	Agree	Agree	Agree	Agree	Disagree	Agree	Agree
Rabinarayan	30	M	Shopkeeper	Not Aware	Agree	Agree	Strongly Agree	Agree	Disagree	Disagree	Agree	Disagree	Disagree	Agree	Disagree	Neutral
Debashish	41	M	Pandit	No	Disagree	Neutral	Neutral	Strongly Agree	Neutral	Disagree	Neutral	Strongly Agree	Agree	Neutral	Disagree	Agree
Harihara	32	M	Shopkeeper	No	Disagree	Neutral	Agree	Neutral	Disagree	Neutral	Neutral	Agree	Disagree	Disagree	Agree	Neutral
Damdora	45	M	Cleaner	Yes	Neutral	Neutral	Agree	Neutral	Disagree	Agree	Agree	Strongly Agree	Agree	Neutral	Neutral	Disagree
Dibakar	54	M	Pandit	No	Disagree	Agree	Agree	Neutral	Neutral	Neutral	Agree	Agree	Disagree	Agree	Disagree	Agree
Madhu	32	F	Labourer	No	Disagree	Disagree	Neutral	Disagree	Neutral	Neutral	Neutral	Disagree	Agree	Disagree	Agree	Disagree
Jagabandhu	28	M	Guide	No	Agree	Agree	Agree	Agree	Disagree	Agree	Disagree	Agree	Neutral	Neutral	Neutral	Neutral
Laxmi	30	F	Shopkeeper	No	Disagree	Disagree	Disagree	Agree	Agree	Disagree	Disagree	Agree	Neutral	Agree	Neutral	Agree
Dipuna	35	M	Shopkeeper	No	Strongly Disagree	Strongly Disagree	Agree	Agree	Neutral	Disagree	Agree	Strongly Agree	Agree	Disagree	Disagree	Disagree
Dinabandhu	29	M	Auto wala	Yes	Disagree	Agree	Strongly Agree	Agree	Agree	Agree	Agree	Strongly Agree	Neutral	Neutral	Agree	Neutral
Khuntia	42	F	Shopkeeper	Yes	Neutral	Agree	Disagree	Strongly Agree	Neutral	Disagree	Neutral	Agree	Agree	Neutral	Disagree	Agree
Dipuna	51	F	hotelier	No	Disagree	Disagree	Agree	Strongly Agree	Disagree	Agree	Agree	Strongly Agree	Neutral	Disagree	Neutral	Disagree
Dinabandhu	27	M	Auto wala	No	Disagree	Agree	Disagree	Agree	Neutral	Neutral	Strongly Agree	Strongly Agree	Agree	Agree	Disagree	Neutral
Ramchandra	32	M	hotelier	Not Aware	Neutral	Neutral	Agree	Agree	Neutral	Neutral	Strongly Agree	Agree	Strongly Agree	Neutral	Agree	Agree
Kishanprusti	30	F	Shopkeeper	Yes	Disagree	Agree	Agree	Agree	Disagree	Agree	Neutral	Agree	Agree	Disagree	Neutral	Neutral

PURI RESIDENTS

MATHURA VRINDAVAN

Varanasi

Name	Age	Gender	Description	Infrastructure, including the Heritage City	IT mapping, Heritage Development Plan, Digitization Service	BEE, CCTV, Cameras, Digital Signage, Storage, Sensors	Sustainable public transport system, TOD	Promotion of local heritage industry	Green, sustainable environment, Open spaces	Smart Solutions	15-Minutes, citizen participation, security, health, and education	Area-based development
Braj Pati Tiwari	32	M	Asst. Engineer, Mu	Good Progress	Average Progress	Good Progress	Good Progress	Average Progress	Excellent Progress	Good Progress	Good Progress	Average Progress
Rana PB Singh	75	M	H.O.D, IIT-BHU	Average Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Average Progress	Average Progress	Good Progress
Ar. Sakshi	29	F	Local Architect	Good Progress	Average Progress	Excellent Progress	Good Progress	Good Progress	Good Progress	Good Progress	Good Progress	Good Progress
Deepak Jaiswal	40	M	Asst. Engineer,	Average Progress	Good Progress	Good Progress	Average Progress	Average Progress	Excellent Progress	Good Progress	Average Progress	Average Progress
Ar. Harsh	25	M	Architect	Good Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress
Prof. Praveen	38	M	Professor-BHU	Excellent Progress	Average Progress	Excellent Progress	Good Progress	Average Progress	Good Progress	Good Progress	Excellent Progress	Good Progress
Mumtaz	50	M	Varanasi Nagar	Excellent Progress	Good Progress	Not Satisfactory	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Good Progress
Ashok Singh Hashimi	32	M	Architect	Good Progress	Average Progress	Average Progress	Good Progress	Average Progress	Excellent Progress	Excellent Progress	Good Progress	Good Progress
	45	M	A.E,VDA	Good Progress	Average Progress	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Good Progress	Average Progress

VARANASI OFFICIALS

[illegible]

VARANASI TOURISTS

Name	Age	Gender	Occupation	Business Sector: Health, Pharmaceutical, and ITM	Has he/she heard about COVID-19? If yes, what do you know about it?	Agreement to service	Willingness to provide services if safe enough?	Interest in participating level?	Attitude towards patients, colleagues, relatives, and strangers	Confidence in other healthcare workers	Acceptance of government advice	Perceived risk of infection	Perceived risk of death	Willingness to change behaviour	Reason for not working during COVID-19	What are the most important four problems (challenges) facing you now?	What suggestions do you have for the business sector? If COVID and Post-COVID schemes available	
Sund Patel	54	M	service	Yes	Agree	Agree	Agree	Agree	Strongly Disag	Agree	Agree	Disagree	Disagree	Disagree	Agree	The Rti, competition from services Tourist infrastructure	GCI should work for employment services crowd management	
Ajay	40	M	business	No	Neutral	Neutral	Strongly Agree	Agree	Strongly Disag	Disagree	Agree	Agree	Disagree	Neutral	Neutral	Employment, sanitary services Pollution, higher education lacking	GCI should monitor corruption, development, tourist residents, tourist	
Rohit Mahesh	36	M	artist	Yes	Agree	Agree	Agree	Strongly Agree	Disagree	Agree	Agree	Agree	Disagree	Agree	Agree	Tourist infra, inflation, fear of losing shops and homes, Pollution	People's involvement and participation should be encouraged	
Santosh Kumar Joshi	28	M	shopkeep	Yes	Agree	Agree	Strongly Agree	Agree	Disagree	Agree	Agree	Disagree	Disagree	Agree	Disagree	Employment, sanitary services Pollution, higher education lacking	GCI should work for employment services crowd management	
Naveen	38	M	private sector	No	Agree	Disagree	Agree	Strongly Agree	Disagree	Disagree	Neutral	Strongly Agree	Disagree	Neutral	Disagree	Traffic congestion Poor services tourist infra, pollution	GCI should monitor corruption, development, tourist residents, Tourist	
Anand	66	M	shopkeep er	No	Neutral	Disagree	Agree	Neutral	Disagree	Agree	Neutral	Agree	Disagree	Disagree	Neutral	Tourist infra, inflation, fear of losing shops and homes, Pollution	People's involvement and participation should be encouraged	
Ashish	67	M	service	Yes	Agree	Disagree	Agree	Neutral	Disagree	Agree	Agree	Strongly Agree	Agree	Disagree	Neutral	Disagree	Employment, sanitary services Pollution, higher education lacking	GCI should work for employment services crowd management
Hemant	60	M	service	Yes	Agree	Agree	Agree	Neutral	Disagree	Strongly Agree	Agree	Agree	Disagree	Agree	Disagree	Tourist infra, inflation, fear of losing shops and homes, Pollution	People's involvement and participation should be encouraged	
Nagu	66	M	tourist agent	No	Disagree	Disagree	Agree	Disagree	Strongly Disag	Neutral	Neutral	Disagree	Disagree	Disagree	Agree	Disagree	Traffic congestion Poor services tourist infra, pollution	People's involvement and participation should be encouraged
Jayesh	79	M	management	Yes	Agree	Agree	Agree	Agree	Disagree	Agree	Disagree	Disagree	Disagree	Disagree	Neutral	Disagree	Traffic congestion Poor services tourist infra, pollution	GCI should work for employment services crowd management
Shashis	23	F	seller	Yes	Agree	Disagree	Disagree	Agree	Agree	Disagree	Disagree	Agree	Disagree	Agree	Neutral	Agree	Tourist infra, inflation, fear of losing shops and homes, Pollution	People's involvement and participation should be encouraged
Nam	36	F	business	Yes	Agree	Disagree	Strongly Dis	Agree	Agree	Neutral	Agree	Strongly Agree	Disagree	Disagree	Disagree	Disagree	Employment, sanitary services Pollution, higher education lacking	People's involvement and participation should be encouraged
Jayesh	66	F	business	Yes	Disagree	Agree	Strongly Agree	Agree	Agree	Agree	Agree	Strongly Agree	Disagree	Neutral	Agree	Neutral	Traffic congestion Poor services tourist infra, pollution	GCI should work for employment services crowd management
Vidhushi	38	F	business	No	Neutral	Agree	Disagree	Strongly Agree	Disagree	Disagree	Neutral	Agree	Agree	Disagree	Disagree	Agree	Tourist infra, inflation, fear of losing shops and homes, Pollution	GCI should monitor corruption, development, tourist residents, Tourist
Vijay	62	M	guide	No	Agree	Disagree	Agree	Strongly Agree	Disagree	Agree	Agree	Strongly Agree	Disagree	Disagree	Neutral	Disagree	Traffic congestion Poor services tourist infra, pollution	People's involvement and participation should be encouraged
Aakash	69	M	business	No	Disagree	Agree	Disagree	Agree	Disagree	Strongly Agree	Strongly Agree	Agree	Agree	Disagree	Disagree	Agree	Traffic congestion Poor services Tourist infra, infrastructure	GCI should work for employment services crowd management
Dhanendra	69	M	business	Not Answer	Agree	Disagree	Agree	Agree	Neutral	Agree	Strongly Agree	Agree	Disagree	Agree	Agree	Agree	Employment, sanitary services Pollution, higher education lacking	People's involvement and participation should be encouraged
Shubhi	33	M	business	Yes	Agree	Agree	Agree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Disagree	Neutral	Neutral	Traffic congestion Poor services tourist infra, pollution	GCI should work for employment services crowd management

VARANASI RESIDENTS

DWARKA

Infrastructure revitalizing the Heritage City	GIS mapping, Heritage-Management Plan, Revitalization Service	IEC, CCTV Cameras, Digital Display, Signage, Services	Sustainable public transport system,TOD	Promotion of local heritage industry	Clean, sustainable environment,Open spaces	'Smart' Solutions	E-Governance, citizen participation, security, health, and education.	Area-based development
Good Progress	Average Progress	Good Progress	Average Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress
Average Progress	Good Progress	Excellent Progress	Good Progress	Average Progress	Excellent Progress	Good Progress	Excellent Progress	Average Progress
Average Progress	Excellent Progress	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Good Progress	Good Progress
Good Progress	Good Progress	Average Progress	Good Progress	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress
Good Progress	Average Progress	Good Progress	Average Progress	Good Progress	Excellent Progress	Good Progress	Good Progress	Good Progress
Average Progress	Good Progress	Good Progress	Good Progress	Average Progress	Excellent Progress	Average Progress	Average Progress	Good Progress
Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Good Progress	Good Progress	Excellent Progress	Good Progress
Good Progress	Good Progress	Average Progress	Average Progress	Good Progress	Good Progress	Average Progress	Good Progress	Average Progress

DWARKA OFFICIALS

Non-sustainable and heritage inclusive development initiatives under HRIDAY, AMRUT, PRASHAD, AND SCM	Sustainable and heritage inclusive development initiatives and implementation to be done by:-	Rating of heritage inclusivity	Factors contributing to heritage inclusivity	Factor to be considered in the sustainable and heritage inclusive development in Dwarka	Measures to attain sustainable and heritage inclusive development in Dwarka	Physical, Institutional, Economic, Social Infrastructure, Ease of Visiting temples.	Heritage Revitalization- Religious structures, Service Provision.	Tourist facilities, GIS mapping, City maps, Digital Display, IEC, CCTV Cameras, Smart solutions, Sustainable Public transport(TOD)	Skill development	Clean and sustainable environment	Housing and inclusiveness	Good E-Governance, citizen participation	Area-based development, open spaces, flexible building bye-laws.
Sustainable tourism activities	Government	Somewhat inclusive	Cultural and religious sensitivity training for	Strategies to be adopted	government and private	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress	Average Progress	Good Progress	Good Progress
Sustainable tourism activities	Local communities	Very inclusive	Preservation of historical monuments and	Tourism	government and private	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress	Good Progress	Non Satisfactory	Good Progress
Preserving the cultural heritage with	Government	Very inclusive	Preservation of historical monuments and	Technology and innovation	community engagement	Average Progress	Good Progress	Average Progress	Good Progress	Good Progress	Average Progress	Average Progress	Average Progress
Waste management and recycling	Government	Somewhat inclusive	Accessible transportation options	Practices from other cons	education and	Good Progress	Average Progress	Average Progress	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress
Sustainable tourism activities	Local communities	Somewhat inclusive	Accessible transportation options	Strategies to be adopted	government and private	Non Satisfactory	Good Progress	Good Progress	Non Satisfactory	Good Progress	Good Progress	Non Satisfactory	Good Progress
Preserving the cultural heritage with	Residents	Not at all-inclusive	Preservation of historical monuments and	Tourism	infrastructure and	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress
Sustainable tourism activities	Government	Not at all-inclusive	Multilingual signage and information	Tourism	education and	Good Progress	Average Progress	Average Progress	Good Progress	Average Progress	Average Progress	Non Satisfactory	Good Progress
Sustainable tourism activities	Local communities	Not aware	Multilingual signage and information	Technology and innovation	community engagement	Average Progress	Good Progress	Average Progress	Good Progress	Non Satisfactory	Good Progress	Average Progress	Good Progress
Preserving the cultural heritage with	Government	Very inclusive	Accessible transportation options	Technology and innovation	infrastructure and	Good Progress	Good Progress	Good Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Average Progress
Sustainable tourism activities	Government	Somewhat inclusive	Cultural and religious sensitivity training for	Technology and innovation	community engagement	No Progress	Average Progress	Good Progress	Good Progress	Average Progress	Average Progress	Good Progress	Average Progress
Preserving the cultural heritage with	Government	Somewhat inclusive	Multilingual signage and information	Technology and innovation	government and private	Average Progress	Average Progress	Average Progress	Good Progress	Good Progress	Average Progress	Non Satisfactory	Good Progress
Preserving the cultural heritage with	Local communities	Not at all-inclusive	Multilingual signage and information	Practices from other cons	government and private	Average Progress	Average Progress	Average Progress	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress
Preserving the cultural heritage with	Local communities	Not at all-inclusive	Preservation of historical monuments and	Practices from other cons	infrastructure and	Good Progress	Good Progress	Good Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Good Progress
Sustainable tourism activities	Residents	Not aware	Accessible transportation options	Tourism	infrastructure and	Average Progress	Average Progress	Average Progress	Average Progress	Good Progress	Average Progress	Good Progress	Good Progress
Preserving the cultural heritage with	Government	Somewhat inclusive	Cultural and religious sensitivity training for	Strategies to be adopted	community engagement	Average Progress	Average Progress	Average Progress	Average Progress	Non Satisfactory	Average Progress	Non Satisfactory	Good Progress
Preserving the cultural heritage with	Local communities	Somewhat inclusive	Preservation of historical monuments and	Practices from other cons	community engagement	Good Progress	Good Progress	Average Progress	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress
Sustainable tourism activities	Local communities	Not aware	Multilingual signage and information	Tourism	education and	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Good Progress
Waste management and recycling	Government	Not at all-inclusive	Cultural and religious sensitivity training	Technology and innovation	education and	Average Progress	Average Progress	Good Progress	Average Progress	Good Progress	Good Progress	Non Satisfactory	Good Progress
Preserving the cultural heritage with	Residents	Not aware	Accessible transportation options	Tourism	government and private	Good Progress	Average Progress	Average Progress	Average Progress	Good Progress	Good Progress	Non Satisfactory	Average Progress
Sustainable tourism activities	Residents	Very inclusive	Preservation of historical monuments and	Practices from other cons	government and private	Good Progress	Good Progress	Good Progress	Non Satisfactory	No Progress	Average Progress	Non Satisfactory	Average Progress
Waste management and recycling	Local communities	Not at all-inclusive	Accessible transportation options	Strategies to be adopted	education and	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Average Progress	Good Progress
Preserving the cultural heritage with	Local communities	Somewhat inclusive	Multilingual signage and information	Tourism	government and private	Average Progress	Average Progress	Good Progress	Good Progress	Average Progress	Good Progress	Non Satisfactory	Average Progress
Sustainable tourism activities	Residents	Not at all-inclusive	Preservation of historical monuments and	Technology and innovation	infrastructure and	Good Progress	Non Satisfactory	Average Progress	Average Progress	Good Progress	Average Progress	Non Satisfactory	Good Progress
Preserving the cultural heritage with	Residents	Somewhat inclusive	Cultural and religious sensitivity training	Strategies to be adopted	infrastructure and	Average Progress	Average Progress	Good Progress	Good Progress	Average Progress	Average Progress	Non Satisfactory	Average Progress
Preserving the cultural heritage with	Government	Somewhat inclusive	Preservation of historical monuments and	Technology and innovation	infrastructure and	Average Progress	Average Progress	Good Progress	Good Progress	Average Progress	Average Progress	Average Progress	Average Progress
Waste management and recycling	Government	Somewhat inclusive	Multilingual signage and information	Tourism	education and	Good Progress	Non Satisfactory	Non Satisfactory	Average Progress	Good Progress	Non Satisfactory	Non Satisfactory	Average Progress
Preserving the cultural heritage with	Residents	Not aware	Preservation of historical monuments and	Strategies to be adopted	government and private	Average Progress	Good Progress	Average Progress	Average Progress	No Progress	Average Progress	Average Progress	Average Progress
Sustainable tourism activities	Residents	Not aware	Multilingual signage and information	Tourism	government and private	Good Progress	Good Progress	Average Progress	Good Progress	Average Progress	Average Progress	Non Satisfactory	Average Progress
Preserving the cultural heritage with	Government	Not aware	Accessible transportation options	Technology and innovation	government and private	Non Satisfactory	Average Progress	Average Progress	Good Progress	Average Progress	Non Satisfactory	Average Progress	Good Progress
Preserving the cultural heritage with	Local communities	Somewhat inclusive	Multilingual signage and information	Tourism	education and	Average Progress	Average Progress	Good Progress	Non Satisfactory	Average Progress	Good Progress	Non Satisfactory	Good Progress

DWARKA TOURISTS

Awareness- HRIDAY, AMRUT, PRASHAD, AND SCM	Are the works - HRIDAY, AMRUT, PRASHAD and SCM impactful?	Improved Services	Increase in Tourist influx, economy	Increase in Pollution levels?	Public participation	Inclusion of Culture, religious beliefs, and heritage	Incorporation of Smart solutions	Restoration works for heritage areas.	Public transport system, TOD	Promotion of local skill development	Willingness to change/Fear	Housing for all
No	Agree	Agree	Agree	Agree	Strongly Disagree	Neutral	Agree	Agree	Agree	Disagree	Disagree	Agree
No	Neutral	Neutral	Strongly Agree	Agree	Strongly Disagree	Disagree	Agree	Agree	Strongly Agree	Disagree	Neutral	Neutral
No	Agree	Agree	Agree	Strongly Agree	Disagree	Agree	Agree	Agree	Agree	Disagree	Agree	Agree
Not Aware	Agree	Agree	Strongly Agree	Agree	Disagree	Disagree	Agree	Disagree	Disagree	Agree	Disagree	Neutral
No	Neutral	Neutral	Neutral	Strongly Agree	Neutral	Disagree	Neutral	Strongly Agree	Agree	Neutral	Disagree	Agree
No	Neutral	Neutral	Agree	Neutral	Disagree	Neutral	Neutral	Agree	Disagree	Disagree	Agree	Neutral
Yes	Neutral	Neutral	Agree	Neutral	Disagree	Agree	Agree	Strongly Agree	Agree	Neutral	Neutral	Disagree
No	Agree	Agree	Agree	Neutral	Neutral	Neutral	Agree	Agree	Disagree	Agree	Disagree	Agree
No	Disagree	Disagree	Neutral	Disagree	Neutral	Neutral	Neutral	Disagree	Agree	Disagree	Agree	Disagree
No	Agree	Agree	Agree	Agree	Disagree	Agree	Disagree	Agree	Neutral	Neutral	Neutral	Neutral
No	Disagree	Disagree	Disagree	Agree	Agree	Disagree	Disagree	Agree	Neutral	Agree	Neutral	Agree
No	Strongly Disagree	Strongly Disagree	Agree	Agree	Neutral	Disagree	Agree	Strongly Agree	Agree	Disagree	Disagree	Disagree
Yes	Disagree	Agree	Strongly Agree	Agree	Agree	Agree	Agree	Strongly Agree	Neutral	Neutral	Agree	Neutral
Yes	Neutral	Agree	Disagree	Strongly Agree	Neutral	Disagree	Neutral	Agree	Agree	Neutral	Disagree	Agree
No	Agree	Disagree	Agree	Strongly Agree	Disagree	Agree	Agree	Strongly Agree	Neutral	Disagree	Neutral	Disagree
No	Disagree	Agree	Disagree	Agree	Neutral	Neutral	Strongly Agree	Strongly Agree	Agree	Agree	Disagree	Neutral
Not Aware	Neutral	Neutral	Agree	Agree	Neutral	Neutral	Strongly Agree	Agree	Strongly Agree	Neutral	Agree	Agree
Yes	Disagree	Agree	Agree	Agree	Disagree	Agree	Neutral	Agree	Agree	Disagree	Neutral	Neutral

PUBLICATIONS AND CONFERENCES/WORKSHOPS

A. Conferences (Research Paper Presentation)

- 1) 12th ACLA - Asian Cultural Landscape Association - *International Globinar* “Urban Cultural Landscapes & Holy- Heritage Cities in Asia and SDGs” (June’23)
- 2) 5th NICHE & IPM Meet 2023: - Neo International Conference on Habitable Environments & International Professionals Meet, LPU, Jalandhar, presented paper titled: ‘Localization of United Nations Sustainable Development Goal 11’ (October 23)

B. Paper published/under review (Research Paper Publication)

- 1) “Evaluation of Sustainable Development in Mathura Vrindavan: A Critical Analysis”- Sacred Heritage *and Pilgrimages in Cities*. The Urban Book Series (ISSN: 2365-757X). Springer Nature Switzerland AG, Cham, Switzerland. <https://www.springer.com/series/14773>.
- 2) “UNSDG Goal 11- Perspective and Prospective for Indian Pilgrimage Cities” -Transaction Institute of Indian Geographers, Pune.
- 3) Published paper titled, ‘HRIDAY And Smart City Mission Initiatives: A Tale of Two Historic Indian Pilgrim Cities - Puri and Madurai’ in journal named ‘Educational Administration: Theory and Practice’, on 22-04-2024 of volume/issue no. 30(4) with an ISSN NO. 2148-2403 and web link, <https://kuey.net/index.php/kuey/article/view/2170>.