

## Evaluation of Sustainable Development in Mathura - Vrindavan: A Critical Analysis

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*Cite this paper as:* Ar. Naumi Garg, Dr. (Ar.) Atul Singla, Ar.Shilpa Jain, Ar.Anisha Deb, (2025) Evaluation of Sustainable Development in Mathura - Vrindavan: A Critical Analysis. *Journal of Neonatal Surgery*, 14 (5s), 889-900.

### ABSTRACT

The belief in lord Krishna and the religious significance of Mathura Vrindavan has attracted a growing number of tourists in recent years. However, the rapid influx of religious tourists and urbanization poses multiple challenges. Though Government of India (GOI) has introduced various missions and schemes like HRIDAY (Heritage City Development and Augmentation Yojana), AMRUT (Atal Mission for Rejuvenation and Urban Transformation), PRASHAD (Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive), and Smart Cities Mission in 2015 to ensure sustainable and heritage-inclusive development of the pilgrimage cities of India. It is important to analyse the recent development in the city under the above schemes for its sustainability and heritage inclusiveness. The United Nations laid out 17 Sustainable Goals in 2015 UNSDG 11 is Sustainable Cities and Communities. NITI Aayog has laid down the Indian version of UNSDGs. This study includes the impact of recent development on the residents and evaluates its feasibility for achieving sustainable development goal 11. It examines the existing policies, identifying gaps and providing practical recommendations for policymakers for social, economic, environmental, and cultural sustainability to balance the preservation of religious heritage in Mathura Vrindavan.

**Keywords:** Sustainable Development Goal 11, HRIDAY, AMRUT, PRASHAD, SMART CITIES MISSION, Mathura-Vrindavan.

### 1. INTRODUCTION

The development of Sustainable and smart urban centres is a roadmap for the overall urban development of India (Vaidya, 2017). Heritage cities, with their rich historical tapestries, stand as vibrant centres for tradition, culture, and tourism, and serve as catalysts for the holistic growth of society, the human race, and the economy, especially in countries like India (Schwarz, 2021). These cities are not mere repositories of antiquity; they are living embodiments of a nation's identity, preserving the legacy of bygone eras while contributing to the dynamic narrative of contemporary life. Heritage cities represent crucibles where tradition, culture, tourism, societal growth, and economic prosperity converge. They embody the continuity of human civilization, offering a testament to the enduring legacy of the past while nurturing the aspirations of the present and future. Preserving and nurturing these cities is not just a cultural imperative but a holistic approach to sustainable development that recognizes the interconnectedness of heritage, society, and the economy (Niglio, 2024). Furthermore, the growth of society within heritage cities is intrinsically linked to the preservation and promotion of traditional crafts and skills (Alley, 1992). From intricate handicrafts to traditional performing arts, these cities become incubators for artistic expression, providing a platform for artisans to showcase their talents. The inter generational transmission of these skills ensures the continuity of cultural practices, creating a sense of pride and identity among local communities (Dumbrajs, 2012).

### 2. SUSTAINABILITY IN HERITAGE CITIES

Redefining historic cities requires a strong focus on sustainability, which paves the way for the peaceful coexistence of economic vibrancy, environmental resilience, and cultural diversity. A sustainable approach becomes essential as these towns struggle to maintain their historical past while simultaneously adjusting to the demands of modern urban life. Initiatives for urban planning in historic cities must incorporate eco-friendly methods that encourage the wise use of resources, green areas, and ecologically sustainable infrastructure (Karimi, 2022). Furthermore, responsible tourism and community

involvement are essential to economic sustainability because they guarantee that locals receive an equitable share of the financial gains from cultural preservation. Promoting diversity, maintaining historic trades and abilities, and cultivating a feeling of community pride are all aspects of social sustainability (Morano, 2021). Heritage cities can meet the difficulties of urbanization and preserve their distinct cultural identities for future generations by adopting a holistic approach to sustainability.

### 3. METHODOLOGY

This research envisions the linkage of the rapid urbanization of pilgrimage cities under schemes by GOI –HRIDAY, PRASHAD, AMRUT, and the SMART CITY MISSION in India with the Sustainable & Heritage inclusive development of sacred pilgrimage towns. The study is significant as it analyses the GOI schemes focusing on Mathura-Vrindavan of India, in the light of United Nations Sustainable Development Goals, thus identifying the issues with the policies through secondary research, and surveys. The study is limited to development works in Mathura-Vrindavan under these schemes. The research, analyses and evaluates the degree of implementation of the above policies on the ground, in Mathura Vrindavan, Sustainable Heritage City systems, and Heritage-Inclusive Development strategy, based on the fieldwork. The study is broadly undertaken through primary surveys i.e. interviews, questionnaires, site visits and visual surveys and secondary research includes two aspects, i.e. firstly the sustainable heritage city systems and case study of Mathura-Vrindavan. The study is conducted with the mixed method approach of observational analysis which includes photography, expert opinions, surveys and interviews. The survey is divided into 3 parts depending on the status of the survey respondent: a resident, a tourist pilgrim and a government official. A random selection of respondents is done for the survey. A total of 80 samples were collected and analysed to conclude.

Various schemes and policies created to actualize Sustainable Development Goals and for the development of heritage cities of India:

#### A. HRIDAY

It is a government scheme launched by the Ministry of Housing and Urban Affairs (MoHUA) to preserve and revitalize heritage cities to promote tourism, economic development and a sustainable urban environment. The scheme addresses various aspects like physical infrastructure, utilities and socio-economic development. The scheme encourages active participation from local communities and stakeholders to ensure the sustainable and inclusive development of these cities (Desai, 2017).

The primary objective is to preserve and revitalize the cultural heritage of India's heritage cities. The scheme aims to strike a balance between urbanization and heritage conservation ensuring sustainable development and economic growth without disturbing the original layer of these cities (Sharma A. , 2023). This scheme is based on a public-private partnership. The scheme majorly focuses on preparing heritage management plans encompassing conservation, preservation and adaptive reuse of heritage assets.

#### B. PRASHAD

It was launched in 2014 by the Ministry of Tourism to promote tourism, preserve cultural heritage and boost the local economy. The scheme recognizes the significance of pilgrimage sites not only as places of worship but also as centres of cultural, historical and spiritual importance. On the other hand, along with HRIDAY, PRASHAD is working on capacity development, skill development and knowledge management, community-based development and strengthening the mechanism for bridging the infrastructural gaps (Karthilingam, 2020).

The primary objective of the PRASHAD (Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive) scheme is to develop and promote pilgrimage and heritage destinations holistically (Singh, Geography of Hindu Pilgrimage Places (Tirthas) in India, 2023). The scheme aims to enhance the overall pilgrimage experience, ensure better infrastructure, and promote sustainable tourism, thereby contributing to the socio-economic development of the regions surrounding these sites. Focus areas of the scheme are infrastructure development, amenities for pilgrims, preservation of heritage, community participation and promotion of tourism (Mishra, 2016).

The challenges faced in the current scenario include a notable absence of consistency and a defined time frame for the proposed initiatives. Additionally, there is a significant lack of proper communication between policymakers and stakeholders, hindering the seamless flow of information and collaboration essential for successful implementation. These issues underscore the importance of establishing a structured framework and open channels of communication to ensure the effective and timely execution of projects and policies.

#### C. AMRUT

It was launched in June 2015 by the Ministry of Housing and Urban Affairs (MoHUA) with the vision to develop urban areas by focusing on sustainability, efficiency and equity. It aims to improve the infrastructure and services in urban areas across the country. AMRUT is part of the larger urban development agenda of the Indian government and complements other

initiatives such as the Smart Cities Mission and Swachh Bharat Abhiyan (Clean India Mission). It plays a crucial role in improving the urban infrastructure and living conditions in cities and towns across India (Murugaiah, 2018).

The primary objective of the AMRUT scheme is to ensure robust infrastructure and service delivery in urban areas, with a special emphasis on improving the quality of life for all residents. The scheme aims to address challenges related to water supply, sewage and septage management, storm water drainage, urban transport, green spaces and parks and capacity building to make cities more liveable and inclusive.

The existing framework presents a critical gap in its failure to incorporate provisions for addressing natural disasters, highlighting a vulnerability that needs urgent attention. Moreover, the current funding structure, with the centre contributing only 50% of the project cost, poses a financial challenge that may hinder comprehensive and sustainable development initiatives. The slow pace of progress observed in the implementation of the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) in Jalandhar further underscores the need for expedited efforts and streamlined processes to ensure the effective realization of urban development goals. These issues collectively emphasize the imperative for a more robust and holistic approach to urban planning and governance.

#### **D. Smart City Mission**

The Smart City Mission is a government initiative launched by the Government of India to transform urban areas and make them more sustainable, efficient, and citizen-friendly. Under this mission, cities are selected through a competitive process to receive funding and support for infrastructure and development projects. Smart City mission (SCM) targets 100 cities for Housing and inclusiveness while conveying AMRUT and HRIDAY. According to literature, it emerges that Smart City and Digital City are the most used

terminologies to indicate the “smartness” of a city. Smart cities represent a conceptual urban development model based on the utilization of human, collective, and technological capital for the enhancement of development and prosperity in urban agglomerations.

Objectives are water supply, sanitation, waste management, urban mobility, Sustainable environment, robust IT connectivity and digitalization. The mission aims to transform selected cities into smart cities by integrating technology, infrastructure, and governance to enhance the overall living conditions and attract investments. The scheme focuses on various aspects like smart infrastructure, urban mobility, e- governance, sustainability, smart solutions, affordable housing and creating cultural and recreational spaces (Bajpai, 2021).

The Smart City Mission, as noted by Shah in 2016, has faced criticism for its place-making impulse, which has not been universally accepted and is perceived as biased towards specific locations within cities. Despite being in operation for six years, numerous Indian smart cities, as highlighted by Bandhopadhyay in 2021, are encountering challenges in translating the mission's objectives into tangible outcomes on the ground. The weak involvement of the State and Urban Local Bodies (ULB) in urban development exacerbates these difficulties, with a noticeable lack of engagement from citizens and investors. The tedious procedures involved in the tendering process add further complexities to the implementation of projects. A specific case, the Kashi Vishwanath Corridor project, has stirred discontent among locals due to the 'lost homes' and demolition of iconic buildings. Approximately 300 buildings were acquired, leading to the displacement of 1400 people and shopkeepers. The ground reality often diverges from the set targets, and the earmarking of smart cities has been criticized for transforming into a political tool aimed at garnering votes rather than addressing genuine urban development needs. Additionally, the Smart City Mission is highlighted as lacking a comprehensive finance model, emphasizing the need for a more sustainable and effective approach to funding urban development initiatives.

#### **About the case**

Lord Krishna has long been associated with the Mathura region which is located along the Yamuna River. Scriptures state that sacred forests once covered the whole Mathura district. Urbanization in the area started in the early 16th century. It has been observed that the majority of the temple towns in the Mathura district were founded between the 16th and the latter half of the 20th century, especially the 1960s (Kapoor, 2022). Based on available data, the saints made numerous attempts to track down the authenticity of the stories associated with Lord Krishna. The sixteenth century is considered a significant turning point because it gave rise to multiple lineages that altered ancient morphology via both inherent and extrinsic means.

Mathura-Vrindavan holds a sacred religious significance in the Indian and international pilgrimage circle. Mathura-

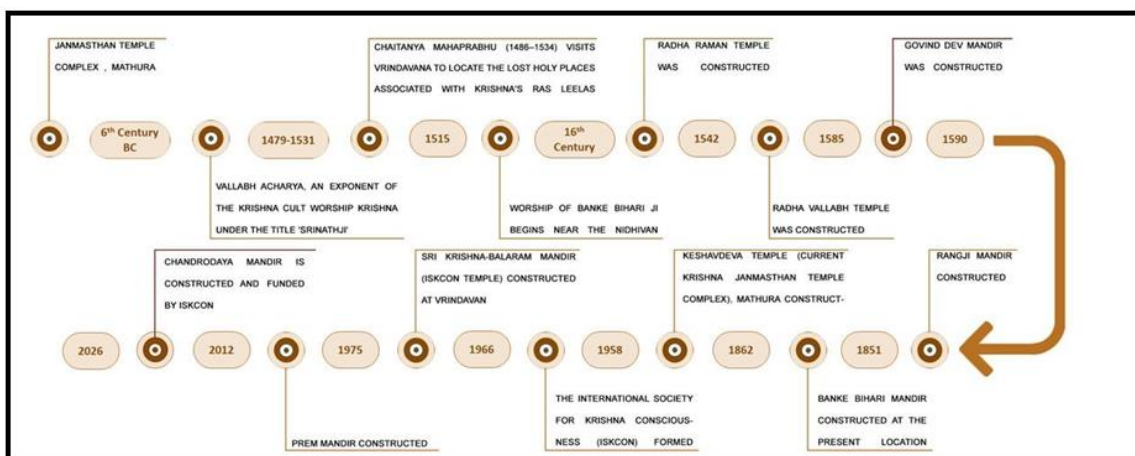
Vrindavan has a population of 519,711 and is located at 27.492413° North Latitude and 77.673676° East Longitude (Census, 2011). On the eastern and western banks of the Yamuna, twelve vast sacred forests once covered the Mathura region. Of these twelve forests, Vrindavan is the most well-known because it is the scene of many of Lord Krishna's favourite activities. The name of the "Brinda" (holy basil, *tulsi*, or *Ocimum tenuiflorum*) woodlands in the city is the source of its historical name, Vrindavan (van). Vrindavan lies on the bank of the Yamuna River (Gupta, 2020). Around twelve ghats, two sacred forests, and more than five thousand temples are the highlights of Vrindavan. Vrindavan is a significant Hindu pilgrimage place because of its lengthy history and connection to Lord Krishna. Constructed in 1590, the Govinda Dev temple is among its

oldest surviving temples. The total area of Vrindavan is 2.25 square kilometres. There are several temples in Vrindavan, but the seven temples (*saptdavalaya*) are the most significant. Due to its popularity among Lord Krishna devotees, Vrindavan, one of the most significant temple towns in the Mathura region, has developed into a religious tourism destination. Religious authorities at the Vrindavan temples host several preaching events all year long that draw people from all around the world (Massey, 2017).

Lord Chaitanya (1486–1533) visited Vrindavan for the first time in 1514. Subsequently, he sent six of his Goswamis to locate the vanished temples of Lord Krishna. In Vrindavan, these six Goswami's constructed numerous temples (Das, 2007). Secondly, in 1509, Vallabhacharya (1479–1530) added more emphasis to the temple cities of Gokul and Srinathji on his map of the Mathura region. (Gokul and Srinathji, even though they are both located across the Yamuna River from Mathura and are supposed to be the childhood homes of Krishna). Third, the Radha-Vallabh sampradaya was founded in Vrindavan in 1534 by the poet Hit Harivansh.

The 16th century saw the worship of an image of Krishna known as "Kunja Bihari," or "Banke Bihari," by Swami Haridas, the founder of the Drupad musical genre and Tansen (1506–89), who served as Akbar's court musician's master. The focal point of this sampradaya and the most well-known building from this early period is its temple. These days, this is also Vrindavan's most popular temple. Following the founding of the International Society of Krishna Consciousness (ISKCON), there have also been many foreign pilgrims and tourists. Humans are revitalized by pilgrimage through faith healing. The framework of pilgrimage allows people to recreate themselves and comprehend their place in the cosmicized nature and earthly spirit (Singh, 2024).

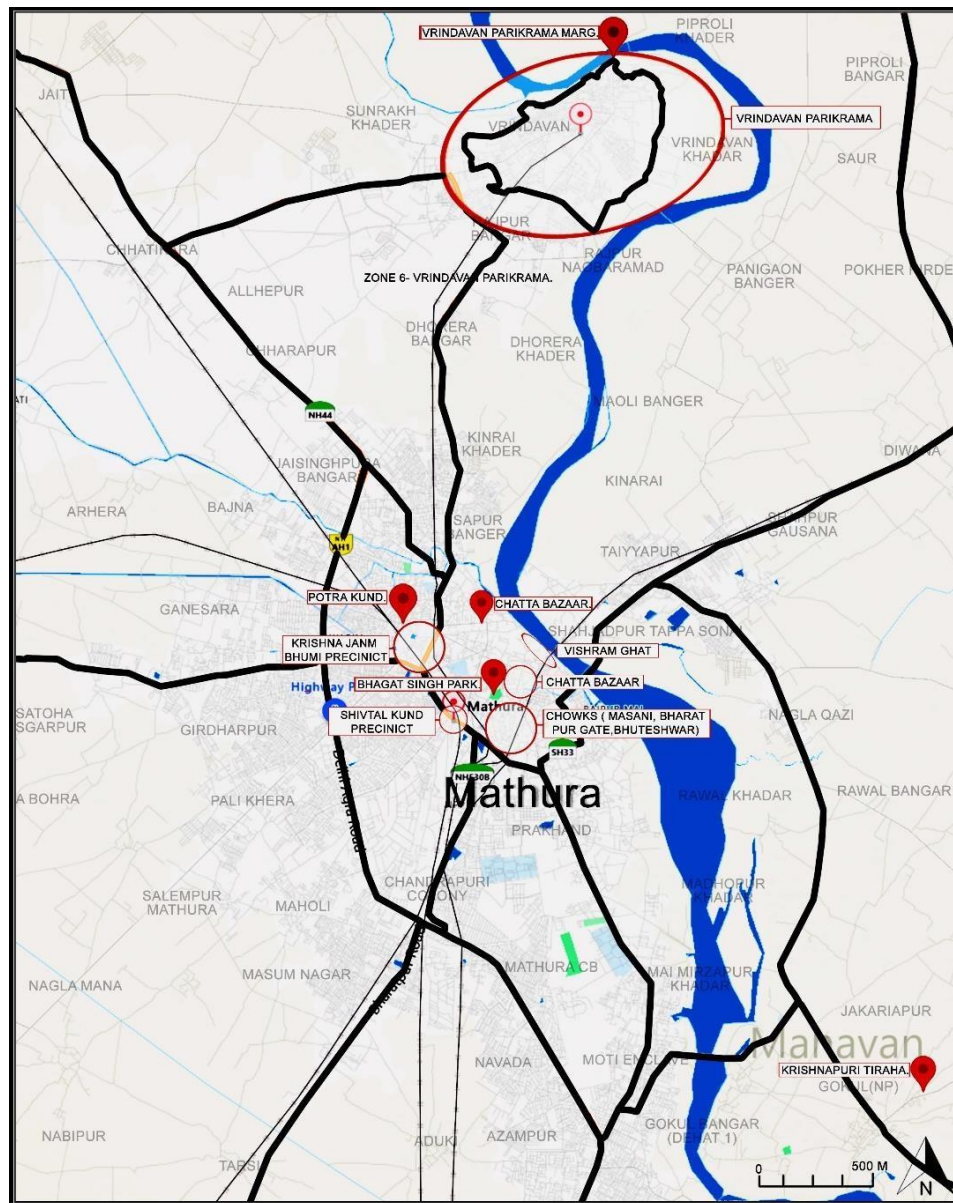
Mathura and Vrindavan hold significant religious importance in Hinduism, with Mathura being revered as the birthplace of Lord Krishna, the eighth incarnation of Lord Vishnu. The Krishna Janmabhoomi Temple in Mathura is believed to be the exact spot of Lord Krishna's birth. In the nearby town of Vrindavan, Lord Krishna spent his childhood engaging in divine and playful activities (*leelas*) with his beloved Radha and other devotees (Sharma M. , 2010). Vrindavan is also intimately associated with the profound love and devotion between Lord Krishna and Radha, with Radha symbolizing pure devotion as his divine consort. Both Mathura and Vrindavan are situated along the sacred banks of the Yamuna River, considered highly auspicious in Hinduism, and a dip in its waters is believed to purify the soul (Tater, 2023). These cities boast renowned temples such as the Dwarkadhish Temple in Mathura, the Banke Bihari Temple, the ISKCON Temple, and Prem Mandir in Vrindavan. The region is a hub for various Hindu festivals, with Janmashtami, the celebration of Lord Krishna's birth, being particularly significant and widely observed in Mathura and Vrindavan. Pilgrims flock to sites like Chhatta Bazaar, Vishram Ghat, Prem Mandir, Parikrama Marg, Shiv Taal Kund, Krishna Janmabhoomi, and Kans Fort, making it a prominent pilgrimage destination.



**Figure 1: Historical Timeline of events in Mathura**Source: Compiled by author from various sources Active schemes in Mathura

### ***Heritage City Development and Augmentation Yojana (HRIDAY):***

Under HRIDAY cities; Mathura Vrindavan is divided into six zones for development activities to be carried out effectively (MoHUA, 2015). Under HRIDAY, urban heritage adaptive rehabilitation and maintenance is undertaken, including appropriate technologies for historic building retrofitting. Development works include sector-specific proposals such as under-completed projects there is the Reconstitution of Peyjal planning: the overhead tank (1650 km Chandrapuri, 2500 km Krishna Bihar), the underground reservoir, sewage plan, Vrindavan zonal works- civil, furniture and electricity and street lighting, etc.



**Figure 2: Six Zones of Mathura- Vrindavan under HridaySource: Hriday; prepared by Author in My maps**

Works under progress include an integrated traffic management system, Vrindavan zonal works- civil, furniture and electricity, multi-level parking, smart office, Bhagat Singh Park, etc. HRIDAY scheme completed many successful projects such as the Redevelopment and revitalization of the Vrindavan Parikrama Marg, Krishna Janmabhoomi Precinct, the Installation of CCTV cameras at Krishna Janmasthan, Vrindavan Parikrama Marg and Vishram ghat, beautification of Krishnapuri Tiraha, Facade lighting at Potrakund, revitalization of the historic Chhatta bazaar, rejuvenation of the Vishram ghat, digital boards. Whereas, installation of street furniture etc. and Construction of the entry gate near mandi *samiti* at Vrindavan are yet to start.

The heritage management of Varanasi's ghats has been a notable absence, as pointed out by Sinha in 2018. The migration of residents has resulted in either the abandonment of buildings or their haphazard modernization through unplanned initiatives. The urban policy under the Heritage City Development and Augmentation Yojana lacks a nuanced focus on local socio-economic and cultural processes, as well as regulatory conditions. HRIDAY, primarily oriented towards the sanitization of cities, has faced criticism for neglecting the essential needs of residents, leading to insufficient basic services and infrastructure. The Urban Local Body's engagement in the implementation of heritage management plans is notably weak. Moreover, historic cities, including those under HRIDAY, face a threat from the excessive use of automobiles, which poses challenges to the irreplaceable network of settlements, habitats, and heritage precincts within these cities.



**Figure 3: Dilapidated condition of Chhatri and water body in Shivtal Kund post-intervention by HRIDAY**Source: Authors

The problems identified in the area include the pollution of the Kund's water. This issue stems from a city drain being redirected towards the Kund due to a breach in one side wall. The analysis suggests that the lack of maintenance by the authorities is a significant contributing factor to this problem. The unhygienic living conditions resulting from the polluted water can lead to the spread of diseases among residents. Furthermore, the contamination of the Kund water by open drains exacerbates the situation, posing additional health risks to the community. Immediate action and intervention are necessary to address these issues and safeguard the health and well-being of the residents.

***Pilgrimage rejuvenation and spiritual heritage augmentation drive (PRASHAD):***

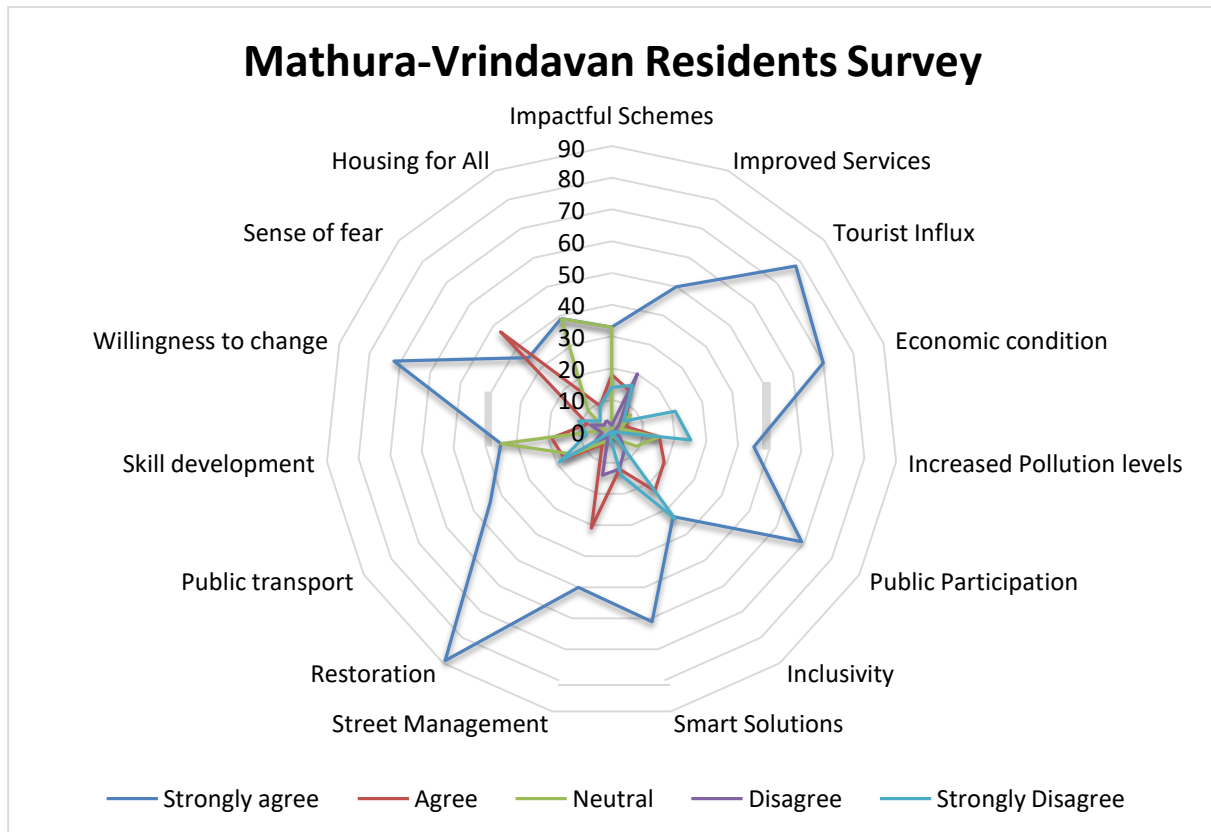
The Ministry of Tourism announces the success of the PRASHAD Scheme in upgrading the Mathura-Vrindavan Circuit.

The project (Enhancing the tourism attractiveness of Krishna Sarovar, Jai Kund, Chandra Sarovar and Akbar Ka Taal) mitigated the structural gaps in the core tourism footprint areas. Other projects include the development of Govardhan Parikrama Marg, bus stand, Mansi Ganga ghat, Kusum Sarovar, Multi-Level parking, cloakroom, toilets, and tourist facilitation centre in Mathura.

***Smart city mission (SCM):***

Under SCM nine major projects started to ensure sustainable development. The Intelligent Transport Management System work was completed at 18 intersections out of 20. VAMS work is completed at 5 locations out of 6. Other seven works such as Multilevel parking, Smart office, Vrindavan zonal works- civil, furniture and electricity, Smart college- Hazarimal Somani Inter college, Street lighting, Composite schools and Surya Namaskar installation works are still in progress.

On the ground, the scenario is different from what the HRIDAY report says. Residents believe the overall impact of schemes remained to be poor and unfulfilled. Half of the residents agree on the availability of good basic services in the region. Under the schemes and missions conducted by the government of India, a major part of residents were excluded from the recent development. These schemes have used smart solutions such as solar power, CCTV, digital systems, etc. Apart from Mathura-Vrindavan, tourists prefer to visit cities like Varanasi, Haridwar, Amritsar and Ayodhya. The following charts show the primary survey results from residents, tourists and government officials.

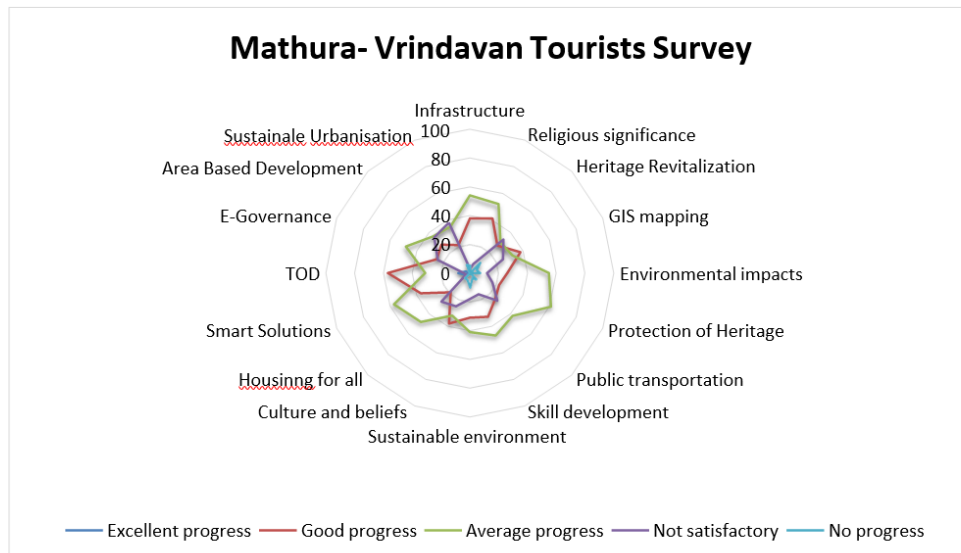


**Figure 4: Residents' Responses on various parameters**Source: Created by Author

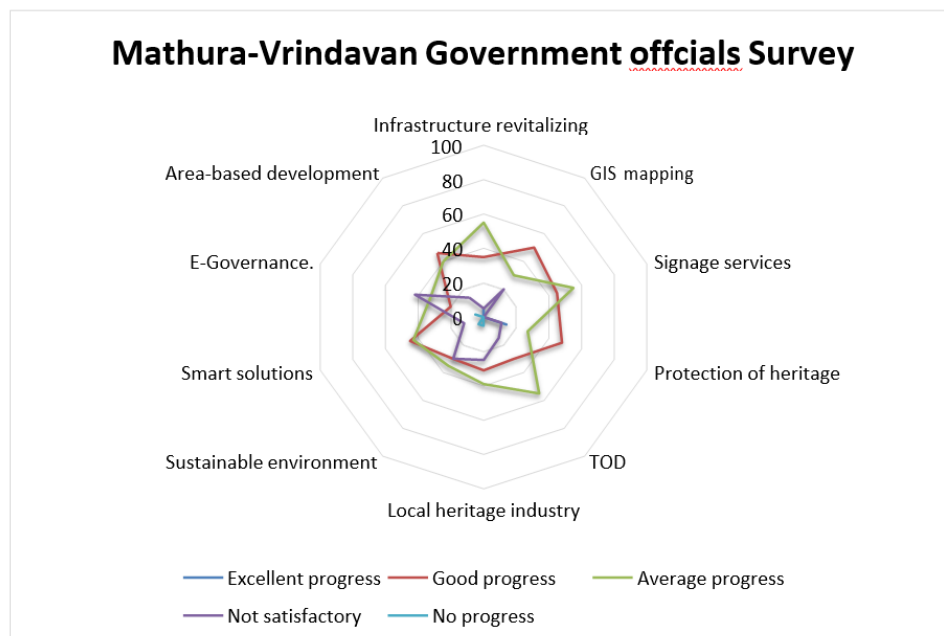
The above charts illustrate that more than half of the surveyed residents were unaware of the mentioned schemes, while another chart indicates significant reluctance among people to embrace change for future

benefits. According to the survey findings, 80 per cent of residents strongly agreed with the restoration efforts undertaken in heritage sites, encompassing historic areas, ghats, temple precincts, and water reservoirs. However, 25 per cent of residents strongly disagreed with the idea that cultural, religious beliefs and heritage considerations were factored into development decisions.

Residents provided feedback and suggestions to enhance the HRIDAY, PRASHAD, AMRUT, and SCM schemes in Mathura Vrindavan. Issues like traffic congestion, inadequate services, tourism influx, and urbanization can be addressed by the Government of India through employment generation, improved services, and crowd management. Challenges such as unemployment, substandard services, pollution, and limited higher education require the Government of India's attention to monitor corruption, prioritize development, and cater to the needs of residents and tourists. The involvement of people and their participation can mitigate concerns like inflation and the fear of losing shops and homes. Tourists emphasized the importance of preserving cultural heritage through sustainable practices, waste management, and recycling to enhance overall city development. They suggested measures like preserving historical monuments, providing accessible transportation, multilingual signage, cultural sensitivity training, and inclusive tourism marketing for heritage inclusivity in pilgrimage cities. Sustainable and heritage-inclusive development in Mathura Vrindavan necessitates strategies to preserve heritage sites, adopt modern development practices, improve infrastructure, ensure accessibility, raise awareness, engage the community, and foster collaboration between the government and private sector. The benefits of such development include preserving culture, curbing pollution, and boosting tourism. Survey data reveal tourists' preferences for accessibility, safety, and religious significance in selecting pilgrimage cities, with 70 per cent stressing the importance of heritage inclusivity in city development. While 30 per cent of tourists regularly visit pilgrimage cities, 60 per cent recommend Mathura Vrindavan as a tourist destination. The progress in transportation and affordable housing is notable, but GIS mapping and infrastructure development lag. Government officials' responses indicate good progress in basic services but limited progress in area-based development.



**Figure 5: Tourists' response to various parameters**Source: Created by Author



**Figure 6: Government official's response on various parameters**Source: Created by Author

The survey findings reveal a significant gap in awareness and dissatisfaction among both tourists and residents regarding the schemes implemented by the government. Despite this, government officials express satisfaction with the progress of these initiatives. This suggests a disconnect between the perceptions of the government and the experiences and expectations of the people directly affected by these schemes. While officials may perceive progress based on their metrics and evaluations, the sentiments of the tourists and residents indicate a different reality, highlighting potential areas for improvement and the need for greater communication and alignment between the government and the public.

#### 4. ANALYSIS

**Table 1: Survey Analysis for Mathura- Vrindavan**Source: Authors

Zones	Existing issues	Analysis	Solution
(Zone1) Krishna Janmabhoomi	Irregular facade, polluted water of the Potra Kund and strained physical infrastructure	Lacks sensitive development, water purification and maintenance and infrastructure upgradation required	Facade treatment of surroundings based on similar heritage style, installation of water treatment facilities and infrastructure proposal required.
(Zone 2) Chatta Bazaar	Congested marketplace, no pedestrian pathways, irregular facade, narrow streets – lack of amenities and traffic Congestion	Crowded markets, with narrow lanes, encroachment in the market, accidents and traffic jams.	Proposal for formal specified spaces for vendors needed, land use plan and master plan, facade redevelopment, provision of amenities and alternate transport route.
Zone 3-Vishram Ghat	Narrow entry, insensitive revitalization, neglected Ghats and polluted River Yamuna	No signage, lack of maintenance and negligence towards rivers and ghats	Significant Entry and signage to be provided, ghats to be rejuvenated and ghat management plan
Zone 4- ShivTaal kund	Water pollution- kund, open city drains in and around it and damaged Chatri	Lack of maintenance, unhygienic living conditions and loss of heritage	Proposals for Water treatment plant under SCM, perforated drain covering and maintenance and Shiv Taal Kund revitalisation.
Zone 5-Chowks	Rampant development on the edges of the chowks, new development made the ghat incongruous and a lack of waste management	Redevelopment of four chowks, edge development with guidelines and proper waste disposal	Redevelop the four main chowks as entry points of Mathura, heritage sensitive management and proposal for waste disposal and management
Zone 6- Vrindavan Parikrama Marg	Lack of facilities for pilgrims Encroachment, massive tourist influx, residents express concerns about the proposed Banke Bihari corridor, neglected ghats and nuisance by traffic jams, loudspeakers and monkeys	Immediate action for infrastructure and amenities need organizational spaces, crowd Management and loss of heritage	Street widening, redevelopment of sacred site spaces to manage the influx of pilgrimage tourists, tourism management, ghat management plan and traffic management

## 5. CONCLUSION

A comprehensive approach that carefully balances the need for modern growth with the preservation of cultural identity is necessary to establish a sustainable heritage city system. There are a few crucial actions that can be taken to accomplish this aim. Above all, careful urban planning is necessary to balance the preservation of historic sites with the changing demands of the neighbourhood. Setting sustainable tourism practices as a top priority is essential for maintaining responsible tourist management and returning financial gains to cultural preservation initiatives. Community involvement is essential because it gives locals a sense of pride and ownership and motivates them to take an active part in maintaining their cultural heritage. Constructing a sustainable heritage city also involves incorporating environmentally friendly technologies into the creation of infrastructure and developing comprehensive policies for the preservation of cultural assets. By taking the following actions, a healthy balance between respecting cultural history and embracing progressive development is achieved, resulting in the growth of cities that are both culturally rich and sustainable.

**Table 2: Steps to Target Sustainable Heritage City System**Source: Authors

SOLUTIONS	DESCRIPTIONS
StakeholderEngagement	Involving local communities, heritage experts, and government bodies in decision-making processes and encouraging public participation in heritage preservation and restoration efforts.
Legislation andPolicies	Developing and enforcing heritage preservation laws and policies. Creatingincentives for property owners to maintain and restore heritage buildings.
Sustainable Urban Planning	We are integrating heritage considerations into urban planning and development by promoting mixed land use to revitalize historic areas while accommodating modern needs.
Infrastructure and Accessibility	We are improving infrastructure, including transportation and utilities, to make heritage areas accessible and implement pedestrian-friendly designs to encouragewalking and reduce pollution.
Conservation and Restoration	Prioritize the restoration of deteriorating heritage structures using sustainable materials and techniques. Establish heritage conservation zones with strict guidelines.
Tourism Management	Promote responsible tourism to minimize the negative impact on heritage sites. Develop visitor centres and guided tours to educate tourists about the city's heritage.
SustainabilityInitiatives	Introduce eco-friendly practices, such as renewable energy, waste reduction, and green infrastructure. Encourage adaptive reuse of heritage buildings for sustainable purposes like museums, galleries, or cultural centres.
Cultural Revival	Support cultural events and festivals to celebrate and sustain local traditions.Invest in the training of artisans and craftsmen to preserve traditional skills.
Funding and Partnerships	Seek public and private sector partnerships for funding heritage conservation projects. Apply for grants and international collaboration to support preservation efforts.
Monitoring and Evaluation	Regularly assess the impact of heritage conservation measures on the city'ssustainability. Adjust strategies based on feedback and changing circumstances.
Long-TermPlanning	Develop a long-term vision and strategy for sustainable heritage preservation. Continuously update plans to adapt to evolving challenges and opportunities. Sustainable heritage city development is an ongoing process that requires commitment, collaboration, and adaptability to ensure the city's cultural legacy thrives while meeting the needs of its residents and visitors.
EnvironmentalImpact Assessment	Environmental Impact Assessment is a systematic process used to evaluate the potential environmental effects of a proposed development project, including its impact on cultural heritage. EIA processes typically involve consultation with relevant stakeholders, including heritage experts, archaeologists, and local communities, to gather input and assess potential impacts comprehensively. The findings of the EIA can inform decision-makers about the potential consequencesof a proposed development on cultural heritage and guide the development of strategies to minimize or offset those impacts.
Heritage Impact Assessment	Heritage Impact Assessment is a process used to evaluate and understand the potential impacts of a proposed development or project on cultural heritage resources. Heritage Impact Assessment typically involves identifying and assessing the significance of heritage assets that might be affected by a development. It considers the potential effects on the physical fabric, historical value, and cultural significance of structures, sites, or landscapes. The goal is to ensure that any proposed changes or developments are compatible with the preservation of cultural heritage.

In the case of HRIDAY, it was found that the heritage management of ghats in Varanasi has been a neglected aspect, as highlighted by Sinha in 2018. The migration of residents has resulted in the abandonment of buildings or their modernization through unplanned initiatives. The urban policy and regulatory conditions under the Heritage City Development and Augmentation Yojana (HRIDAY) lack a nuanced focus on local socio-economic and cultural processes. HRIDAY, primarily aimed at the sanitization of cities, has been criticized for overlooking the essential needs of the local population, including inadequate basic services and infrastructure. Furthermore, there is a notable weakness in the engagement of Urban Local Bodies in the implementation of heritage management plans. The historic cities, including those under HRIDAY, face threats from the rampant use of automobiles, posing a challenge to the irreplaceable network of settlements, habitats, and heritage precincts within these cities.

The inefficiencies in PRASHAD in the implementation of various projects are underscored by a lack of proper communication between policymakers and stakeholders, leading to a dearth of consistency and a clear time frame. Despite the development initiatives such as the Govardhan Parikrama Marg, bus stand, Mansi Ganga Ghat, and Kusum Sarovar in Mathura, initiated in January 2019 and February 2021, progress remains slow. While there have been efforts to enhance tourist facilities in Mathura, including the construction of multi-level parking, cloakrooms, toilets, and a tourist facilitation centre, the current infrastructure remains insufficient to meet the demands. Similarly, in Varanasi, the promotion of cruise tourism in the Ganga River has been initiated; however, the presence of motor boats continues to contribute to air and water pollution, highlighting a disparity between initiatives and their environmental impact.

The place-making impulse within the Smart City Mission has faced criticism for being non-inclusive and biased towards specific locations in the city. Despite the mission being launched six years ago, many Indian smart cities are struggling to realize tangible results on the ground, primarily due to the slow pace of project implementation. The weak involvement of state and Urban Local Bodies (ULB) in urban development, coupled with a lack of engagement from citizens and investors, further complicates the situation. The tedious tendering procedures contribute to the inefficiency of the mission. A notable example is the Kashi Vishwanath Corridor project, where a section of locals expressed discontent over the displacement of homes and the demolition of iconic buildings. Approximately 300 buildings were acquired, leading to the relocation of 1400 people and shopkeepers. The ground reality often diverges from the set targets, highlighting the challenges faced by these projects. Additionally, the earmarking of smart cities has been criticized for becoming a political tool to secure votes rather than focusing on genuine urban development needs. One notable drawback is the lack of a viable finance model within the Smart City Mission.

The research is executed to understand the existing progress of the development works under the various government schemes linked with sustainable development. The study is limited to understanding the sustainable aspect of Mathura Vrindavan through the government schemes of HRIDAY, PRASHAD, AMRUT, and SMART CITY MISSION. The paper discusses probable solutions for the present gaps identified in the process of implementation of development works. Looking at the various aspects of sustainable and heritage-inclusive development in pilgrimage cities in India, Government policies have gaps in policy framing and implementation. Multi-tiered structuring, shaping, and operating Sustainable Heritage City Systems need to be checked and ensured for various development schemes and implementation in various heritage pilgrimage cities of India.

## REFERENCES

- [1] Alley, K. D. 1992. Heritage Conservation and Urban Development in India. *Practicing Anthropology*, vol.14 (2), Spring, pp. 23-26.
- [2] Bajpai, N. and Biberman, J. 2021. India's Smart City Program: Challenges and Opportunities. Center for Sustainable Development, (Earth Institute, Columbia University), December, pp. 2-7.
- [3] Das, S. R. 2007. The Six Goswamis of Vrindavan. ISKON Foundation, pp. 6-9.
- [4] Desai, J.; Rai, G. and Ravindran, K.T. 2017. HRIDAY Reflections, A Monograph on Heritage City Development and Augmentation Yojana. CEPT University, ICOMOS India, pp. 15-16.
- [5] Dumbrajs, S. 2012. Intergenerational Cultural Transmission. *Social and Behavioral Sciences*, vol. 47 (ISSN :1877-0428), pp. 109-113.
- [6] Gupta, V. K. 2020. A Glimpse into the Archeological Antiquity of Vrindavan. *Journal of Multidisciplinary Studies in Archeology*, vol 8(1)(ISSN: 2347-5463), November, pp. 171-188.
- [7] Kapoor, S., Sehgal, V., & Mathur, M. (2022). Spatial Transformations and Urban Conservation of Religious-Historic Towns: A Case of Vrindavan, India. *Journal of Geoscience and Environment Protection*, 10 (8), pp. 289-308.
- [8] Karimi, F.; Valibeig, N.; Memarian, G. and Kamari, A. 2022. Sustainability Rating Systems for Historic Buildings: A Systematic Review. *Sustainability*, vol. 14 (19), September, pp. 1-22.
- [9] Periannan, K.P. Karthilingam & Kannan, R. 2020. A Perspective outlook to Rejuvenate important Global

- Pilgrimage Destinations and Enhancing Tourism Attractiveness in India, *International Journal of Management*, November, pp. 3063-3077. DOI; 10.34218/IJM.11.11.2020.291.
- [10] Massey, P. D. 2017. Vrindavan - A Land of Living History. The Indian Trust for Rural Heritage and Development, pp. 43-50.
- [11] Mishra, Satyam & Sen, Anjan & Ojha, Rohit. 2016. Pilgrimage Tourism in India and Government Policies: A Critical Evaluation of PRASAD Scheme. *IJSD journal*. January, pp. 108-116.
- [12] Morano, Pierluigi & Tajani, Francesco & Guarini, Maria & Sica, Francesco. 2021. A Systematic Review of the Existing Literature for the Evaluation of Sustainable Urban Projects. *Sustainability (Switzerland)*, vol.13(9).May,pp.1-17. DOI; 10.3390/su13094782.
- [13] Murugaiah, V. and Shashidhar, R. and Ramakrishna, V., 2018. Smart Cities Mission and AMRUT Scheme: Analysis in the Context of Sustainable Development. *OIDA International Journal of Sustainable Development*, vol. 11(10). November, pp. 49-60.
- [14] Niglio, O. 2024. The Transcultural Dimension in Heritage Conservation. In: Germanà, M.L., Akagawa, N., Versaci, A., Cavalagli, N. (eds) *Conservation of Architectural Heritage (CAH) CAH 2022. Advances in Science, Technology & Innovation*. Springer, Cham. February, pp. 9-14. [https://doi.org/10.1007/978-3-031-33222-7\\_2](https://doi.org/10.1007/978-3-031-33222-7_2)
- [15] Lausten, Martin. 2021. Chapter 9 Wittenberg: The Holy City. De Gruyter, April, pp.170-178. DOI : 10.1515/9783110639452-010.
- [16] Sharma, Aditi & Aulakh, Rawal. 2023. Sustainable Development Goals 2030 and Management of Heritage: Indian and Global Contexts. *Engineering Proceedings*, October. pp. 2-4. DOI : 290.0.3390/ASEC2023-15249.
- [17] Sharma, M. 2010. The Vrindavan Conservation Project. *Economic and Political Weekly*, vol. 45 (36), pp. 59–61.
- [18] Singh, R.P.B. and Rana, Pravin S. 2023. Geography of Hindu Pilgrimage Places (Tirthas) in India. *Geography of World Pilgrimages*, July, pp. 297-322. DOI:10.1007/978-3-031-32209-9\_14.
- [19] Singh, R. P. B. & Kumar, S. 2024. Ayodhya, a holy-heritage city of India: Appraising Cultural Landscapes and Sustainability. *International Journal of Architecture and Engineering [Aracne Editrice Rome, Italy]*, vol. 11 (2), Jan. 26th: pp. 208-227. <https://doi.org/10.53136/97912218111793>.
- [20] Tater, Neha & Toor, Garima & Surana, Rina & Chandra, Tarush. 2023. The Role of Sacred Eco Heritage Places in Conserving Traditional Knowledge Systems: The Case of the Braj Region in India. *Journal of the International Society for the Study of Vernacular Settlements*. vol.10 (5), May, pp.113-134.
- [21] Vaidya, C. 2017. Urban Planning Approach in AMRUT, SMART City, HRIDAY and Housing For All Missions In India. *Spandrel Journal of SPA, Bhopal*, pp. 77-85.
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