

MUMBAI'S HERITAGE: PRESERVING INDIAN KNOWLEDGE SYSTEM

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ABSTRACT:

This research article explores the significance, evolution, and contemporary relevance of the Indian Knowledge System (IKS), with a specific focus on its manifestation in the cultural and historical heritage of Mumbai. The purpose of the study is to highlight how the Indian Knowledge System, encompassing diverse disciplines such as philosophy, architecture, medicine, art, and astronomy, continues to influence modern Indian society and shapes global thought. Mumbai, often seen as a microcosm of India's diversity and dynamism, serves as a key case study to understand how traditional knowledge and urban development can coexist and complement each other.

The research methodology is qualitative in nature, involving a review of ancient texts, historical analysis of cultural sites, and an examination of current conservation efforts by government bodies, NGOs, and heritage organizations. Key sites in and around Mumbai, such as the Kanheri Caves, Durgadi Fort, Elephanta Caves, Banganga Tank, Jogeshwari Caves Mahakali Caves and Ambarnath Temple, are analyzed to illustrate how ancient knowledge systems were preserved, transmitted, and integrated into religious, artistic, and civic life.

Findings indicate that the Indian Knowledge System is not merely a historical relic but a living tradition that continues to inspire contemporary culture, education, and ethical discourse. Mumbai's historical and cultural landmarks are critical to this continuity, serving both as educational resources and as symbols of collective identity. The city's engagement with ancient knowledge through heritage conservation efforts reflects a growing recognition of the importance of preserving cultural identity in a globalized world.

However, the study acknowledges several limitations, including the challenges posed by rapid urbanization, pollution, lack of public awareness, and inadequate funding for heritage preservation. Despite efforts by agencies like the Archaeological Survey of India and NGOs such as INTACH, many heritage sites remain vulnerable to neglect and damage. The paper concludes by emphasizing the need for sustainable conservation strategies, public engagement, and technological integration to safeguard Mumbai's rich cultural heritage and the broader Indian Knowledge System for future generations.

KEY WORDS: Indian Knowledge System (IKS), Heritage of Mumbai, Indian National Trust for Art and Cultural Heritage (INTACH), Sustainable Conservation, Archaeological Survey of India (ASI), United Nations Educational, Scientific and Cultural Organization (UNESCO), Non-Governmental Organizations (NGOs).

INTRODUCTION:

The Indian Knowledge System (IKS) is a vast and profound body of knowledge that has evolved over thousands of years in the Indian subcontinent. It encompasses the study of

the physical world, mathematics, statistics, various scientific and engineering disciplines, celestial bodies and the universe as a whole. It also includes the construction of buildings and structures, scientific study of language, painting, sculpture, theatre, music, dance along with religious beliefs and practices. This rich tradition is preserved in ancient texts like the Vedas, Upanishads and epics such as the Mahabharata and Ramayana. Additionally, it includes disciplines like Ayurveda, Yoga, Astronomy and Architecture, all of which have significantly contributed to India's intellectual and cultural heritage.

Indian Knowledge System spreads the rich heritage and traditional knowledge of our country, helping to preserve its culture and pass it down to future generations. It creates opportunities for people from different regions or countries to share and learn from each other's cultural practices and fostering global appreciation for a nation's heritage. By embracing in cultural activities, individuals reconnect with the history and traditions that shape their identity. It is about creating experiences that are both educational and emotional, fostering a sense of pride and belonging. Ensuring that future generations can connect with their roots is a crucial part of preserving our country's cultural identity and keeping its traditions alive.

Mumbai, often referred as the *City of Dreams*, is a vibrant and dynamic melting pot of cultures, languages and traditions. It is a city where history and modernity coexist, offering a rich tapestry of heritage, festivals and art. Beyond being India's economic hub, Mumbai is a place that attracts people from all walks of life, seeking to fulfill their dreams in fields such as film, business, art and more. It is a city where aspirations and opportunities blend with the vibrancy of its diverse culture.

Mumbai was once a collection of islands, each with its own unique history, before transforming into the bustling metropolis it is today. Exploring the ancient parts of the city offers a glimpse into its early roots and how it has evolved over time. These historic areas bring Mumbai's rich history and cultural heritage to life. Through them, individuals can learn about the city's evolution, its layers of cultural influences and how these have shaped Mumbai into the *City of Dreams*. Additionally, they help connect future generations with Mumbai's roots, playing a vital role in preserving and celebrating its diverse cultural heritage.

HISTORICAL BACKGROUND OF MUMBAI:

The ancient history of Mumbai formerly known as Bombay, holds a rich and fascinating history, with its origins deeply rooted in antiquity. The region has been home to various civilizations, with a history spanning thousands of years, from pre-historic settlements to its transformation into a bustling port city under British rule.

The area around Mumbai has evidence of prehistoric settlements, with archaeological finds indicating human habitation dating back to the Stone Age.¹ The discovery of caves, rock shelters and ancient tools in Elephanta Island and the Bassein region,² suggested that early human activity and cultures existed in the Mumbai region long before recorded history.

¹ Animesh Ray, *Maritime India – Port and Shipping*, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1993, p. 75.

² A. D. Pusalkar and V. G. Dighe *Bombay – Story of the Island City*, All India Oriental Conference, Bombay, 1949, p.11.

Mumbai is indeed famous for its natural harbour, which has played a significant role in its development as a major commercial and trade hub. It is one of the finest natural deep-water ports in the world. The city's location's strategic positioning, ease of access by both sea and land, and its capability to accommodate a large number of ships would indeed make it an attractive destination for merchants and traders. Its sheltered waters provides safe docking for ships. It has long been a vital distributing centre for trade, particularly for the western and central regions of India. Over the centuries, Mumbai has evolved into a central hub for the export and import of goods.³ The Mumbai port has played a critical role in distributing goods across India, linking the western and central regions with other parts of the country and international markets, making it an ideal centre for maritime trade for centuries.

Maritime nations of the East, Southeast Asia as well as the Arabian Peninsula, possessed highly advanced ocean navigation skills long before Western Europe. Ancient Indian sailors had sophisticated understanding of navigation, trade routes and shipbuilding. This knowledge contributed to the development of an extensive trade network across the Indian Ocean. This network connected regions such as East Africa, the Arabian Peninsula, Persia (Iran), Mesopotamia (Sumeria) and Southeast Asia. The cities of the Northern Konkan region, benefited greatly from these maritime trade routes.⁴ The Indian Ocean trade system represents one of the earliest examples of global connectivity, demonstrating how ancient civilizations mastered the seas and linked distant parts of the world. Situated at the crossroads of maritime routes, Mumbai played a crucial role in facilitating global trade long before the advent of European colonialism.

Even before the advent of Christianity, ports in Sumeria, Arabia and the Persian Gulf were thriving centers of commerce, dealing in goods such as spices, textiles, precious metals and agricultural products.⁵ The natural harbour of Bombay played a decisive role in this trade, laying foundation for its prosperity. Over time, it transformed into one of the world's most significant shipping and trading hubs. With its rich seafaring traditions and commercial activities the Indian Subcontinent was central to global trade network and Bombay's natural harbour became a vital link in this chain.

The Mauryan Empire is believed to have exerted its influence over parts of Western India, with small settlements likely existing under its rule. These settlements played a crucial role in promoting trade and commerce along the coast. The Mauryans understood the importance of trade regulations and actively fostered economic development through both land-based routes and maritime trade. Their influence extended to trade routes that would eventually reach coastal regions, including Mumbai. The area around Mumbai may have also been part of the greater Satavahana kingdom's domain, thriving with a community of merchants and artisans.⁶ The Mauryan rulers had strong interest in enhancing both internal and external trade, which likely contributed directly and indirectly to later rise of maritime cities and India's integration into the broader global trade network.

³ Vaman S. Sapaliga, *Maritime History of Bombay (1830 – 1930)*, University of Bombay, Bombay, 1982, p. 69.

⁴ W. R. S. Sharpe, Deputy Chairman, *Bombay Port Trust*, Times of India Press, Bombay, 1930, Reprinted on 3rd July 1997 by Sudarshan Art Printing Press, Mumbai, p. 1.

⁵ *Ibid.*, W. R. S. Sharpe, p. 1.

⁶ Animesh Ray, *Op. Cit.*, p. 76

Over time, the Mumbai region came under the influence of Hinduism, Buddhism and Jainism, becoming home to several notable religious and cultural centres. Babulnath Temple, located in Mumbai, is a significant and revered Hindu temple dedicated to Lord Shiva, one of the principal deities in Hinduism. The temple plays a crucial role in Mumbai's cultural and religious landscape. Its continued significance in the lives of devotees makes it an important site for spiritual worship and cultural continuity. Evidence of Buddhist heritage can be seen in sites, such as the Elephanta Caves at Gharapuri and Kanheri Caves in Sanjay Gandhi National Park. These caves served as Buddhist monasteries and meditation centers. Jain influence is seen in Mumbai, with temples such as the Godiji Parshwanath in Pydhonie. The Temple is a significant place of worship for the Jain community and is known for its beautiful architecture, intricate carvings and peaceful atmosphere. This indicates the presence of a thriving Jain community and their religious practices in the region.

Bhima Raja, a ruler of the Shilahara dynasty in the 13th century, established Mahim as his capital around 1260 CE. This decision reflected Mahim's growing importance in the region. Strategically located along the west coast of India, the area became an attractive place for trade and maritime activities.⁷ As a ruler of the North Konkan region, Bhima Raja, played a significant role in shaping the early history of Mumbai, laying the foundation for its later development.

The Portuguese arrival in India in 1498, with Vasco da Gama's landing at Calicut on the Malabar Coast. Their presence in India was primarily focused on trade, especially in spices. Over time, they established several coastal settlements along the western coast, with Goa, becoming the centre of Portuguese India for centuries. However, their direct involvement with Mumbai began much later.

Francisco de Almeida, the first Portuguese Viceroy of Goa, visited Mahim at Bombay in 1509. He likely recognized the strategic importance of Mahim, which had been a key settlement even before the arrival of the Portuguese. Almeida's visit in 1509 marked the beginning of Portuguese interest in the area. In 1534, the Sultan Bahadur Shah of Gujarat, ceded the island of Bombay to the Portuguese as part of a peace treaty following his military defeat. The Portuguese then established a fortified settlement in the region, developed it into a base for trade and defense.⁸ To strengthen their presence along the western coast of India, particularly in the Konkan region, they conducted initial explorations to access its potential as a trading hub and military outpost. They also improved the port, making it a prominent centre for maritime trade and sought to establish a strong foothold in Mumbai.

The Portuguese established a strong foothold in India and were highly successful in their trade ventures. However, they lacked the resources and the administrative infrastructure needed to expand and sustain a vast colonial empire. Religious intolerance, combined with ineffective governance, led to the alienation of local populations and weakened their position against emerging European rivals.⁹ While the Portuguese failed to form strong, lasting

⁷ W. R. S. Sharpe, *Op. Cit.*, p. 4; *The Port of Bombay – A Brief History*, S. Y. Ranade, Chairman, Bombay Port Trust (BPT), The Times of India Press, Bombay, 1973, p. 7-8, M. V. Kamath, *Tides of Time, History of Mumbai Port*, Mumbai Port Trust, Mumbai, 2000, p. 16-17.

⁸ *Ibid.*, M. V. Kamath, p. 17; *Ibid.*, W. R. S. Sharpe p. 5, *Ibid.*, S. Y. Ranade, p. 10

⁹ *Ibid.*, W. R. S. Sharpe, p. 5; *Ibid.*, S. Y. Ranade p. 10-11.

alliances, they built churches, forts and introduced various aspects of European culture, including the Portuguese language, which influenced the region for generations. Their rule left a lasting impact on the architecture, culture and language of Bombay, with remnants still visible today in churches, place names and historical structures across the city.

Infanta Catherine of Braganza, married King Charles II of England in 1661, as part of marriage agreement between Portugal and Britain. As per the negotiated terms, the Portuguese agreed to hand over Bombay to the British as part of Catherine's dowry.¹⁰ This transfer marked the beginning of British colonial dominance in the Bombay. The British East India Company took control of Bombay, and over time, the port developed into a major centre of trade and commerce in the region. Gradually, Bombay grew into a thriving commercial hub and a cosmopolitan city.

In 1947, the year India gained independence from British colonial rule, Bombay was one of the key cities of British India and had already become an economic powerhouse, largely due to its status as a major port and centre of trade. The city also played a significant role in India's independence movement, with many political leaders and movements active there.

After Independence on August 15, 1947, India was partitioned into two nations - India and Pakistan - leading to the creation of Pakistan as a separate state for Muslims. Bombay, however, remained part of India and became an important city in the newly Independent nation. In the years following Independence, Bombay continued to grow rapidly. In 1960, it became the capital of the state of Maharashtra, following the reorganization of states along linguistic lines, which led to the creation of a Marathi-speaking state. While 1947 marked the end of British colonial rule, for Bombay, it was also the beginning of a new phase of growth and transformation into one of the world's largest and most influential cities.

MUMBAI'S SITES PRESERVING INDIAN KNOWLEDGE:

Mumbai has a long and fascinating history that connects deeply with Indian Knowledge Systems, even before it became the major urban center. Its proximity to ancient trade routes, strategic geographical position and historical significance played a crucial role in linking Mumbai to India's rich knowledge traditions. In this context, sites such as the Kanheri Caves, Durgadi Fort, Shiva Temple of Ambernath, Elephanta Caves, Banganga Tank, Jogeshwari Caves, Mahakali Caves are particularly relevant. These sites preserve Mumbai's historical, religious, cultural, artistic and architectural heritage, contributing significantly to the development of Indian Knowledge Systems.

A) KANHERI CAVES:

The Kanheri Caves are a group of Buddhist rock-cut caves located in the Sanjay Gandhi National Park near Borivali, Mumbai. These caves hold great historical and religious

¹⁰ BPT, *Secretary's Department (S. D.), History and Development of Major Ports India*, Prepared for The Commission on Major Ports, Bombay Port Trust, 1970, p. 25; Commodore Sanjay Tiwari, *Through The Labyrinth of History – A Journey Through Two Hundred And Seventy Five Years Of The Naval Dockyard At Mumbai*, Naval Dockyard, Mumbai, 2010, p. 14; *Ibid.*, S. Y. Ranade, p. 12; *Ibid.*, W. R. S. Sharpe, p. 9; Rutonjee Ardeshir Wadia, *The Bombay Dockyard and The Wadia Master Builders*, Godrej Memorial Printing Press, Bombay, 1955, p. 8; *Ibid.*, M. V. Kamath, p. 23.

significance and are known for their ancient Buddhist sculptures and inscriptions. Situated within a scenic natural settings, the caves are a popular destination for both nature lovers and history enthusiasts, easily accessible from Mumbai, visitors can reach the site by road or via a short trek.

Historical Overview of Kanheri Caves:

The Kanheri Caves date back to the 1st century BCE and span several centuries of Buddhist influence in India. They served as a centre for Buddhist monastic life, where monks engaged in meditation, teaching and ritual practices. Considered a key site in the history of Buddhism in Maharashtra, the Kanheri Caves were part of a larger network of Buddhist monastic complexes in ancient India, including renowned sites like Ajanta and Ellora. These caves played a significant role in spreading Buddhism across the region, especially during the reign of the Mauryan Empire under Emperor Ashoka.¹¹ As an important Buddhist site, the Kanheri Caves reflect the intellectual and spiritual aspects of the Indian Knowledge System, particularly in relation to Buddhist monasticism, philosophy, and art.

Architectural Structure of Kanheri Caves :

The Kanheri Caves consist of around 109 rock-cut caves, though not all are fully accessible. Carved into a hillside, they vary in size, with some featuring large, intricately carved Buddha statues, while others serve as smaller meditation cells. The most significant among them, Cave No. 3, houses a massive image of the Buddha. The caves primarily have simple yet elegant architecture, with some adorned with beautiful relief carvings and paintings depicting Buddhist themes, including images of the Buddha, Bodhisattvas, and Jataka tales. They also contain remnants of Stupas, Prayer Halls, Viharas and other structures,¹² reflecting the Buddhist tradition of cave architecture.

Designed with an understanding of space and acoustics, the Kanheri Caves provides an ideal environment for meditation and chanting. The construction of rock-cut structures demonstrates advanced knowledge of geology, engineering and architectural techniques, highlighting the craftsmanship of ancient Indian artisans. As an integral part of Buddhist teachings, these caves contribute significantly to the Indian Knowledge System.

Some of the Kanheri caves contain ancient inscriptions in Sanskrit and Prakrit, providing valuable insights into the region's religious and cultural history. These inscriptions offer a glimpse into the intellectual exchanges of the time, as well as the understanding of philosophy and governance. The art within the caves showcases a blend of local and foreign influences, as traders and travellers from various parts of Asia, including Central Asia and the Far East,¹³ visited the site. Sanskrit and Prakrit, two key languages of the Indian Knowledge System, played a crucial role in preserving and transmitting knowledge in ancient India. The presence of these inscriptions highlights the importance of written records in documenting and safeguarding religious and philosophical teachings- an essential aspect of the ancient Indian education system.

¹¹ Chandra Hariharan Iyer, *Indian Knowledge System*, Vipul Prakashan, p. 27.

¹² <https://mumbaisuburban.gov.in/tourist-place/kanheri-caves/>

¹³ <https://puratattva.in/kanheri-inscriptions/>

The history, art, architecture and inscriptions of the Kanheri Caves offer a fascinating glimpse into ancient Indian civilization and the Buddhist monastic tradition. These caves represent a microcosm of the broader Indian Knowledge System, contributing to the philosophy, architecture, art, and education of ancient India. They serve as a reflection of the deep intellectual and spiritual traditions that have shaped not only India but also the larger Buddhist world. The Kanheri caves stand as a testament to the importance of knowledge transmission, which has always been a vital part of Indian civilization.

Water Organization of Kanheri Caves:

One of the most remarkable features of the Kanheri Caves is their advanced water management systems, which allowed the monastic community to thrive in a relatively dry region. Several water cisterns (or tanks) were carved into the solid rock within the cave complex to store rainwater. These cisterns were typically situated at higher elevations, making them gravity-fed, ensuring easy access to stored water. The practice of rainwater harvesting through these cisterns was an early example of sustainable water management, allowing seasonal rains to be collected and stored for year - round use.¹⁴ The construction of rock-cut cisterns reflects the advanced closely related to Indian engineering knowledge of ancient India, where builders efficiently utilized natural materials and landscapes. The careful planning of water storage systems demonstrates an understanding of seasonal rainfall patterns and hydrology, making it a significant aspect of the Indian Knowledge System.

The Kanheri Caves were inhabited by Buddhist monks and the practice of self-sufficiency was integral to their way of life. With limited external resources, managing water efficiently became a key aspect of their daily routine. The sustainable use of water through cisterns allowed the monks to perform daily rituals, drink, bath and even water any plant life within the monastic complex.¹⁵ Careful water management has always been central to Indian civilization. The use of water in rituals, including ablutions and purifications, demonstrates that water management was not just a practical necessity but also held spiritual significance. The Kanheri Caves are part of the larger tradition of ancient Indian water management, which spans across centuries and regions.

Sustainable water use is a concept deeply embedded in the Indian Knowledge System, which recognizes water as both, a resource and a sacred entity. The sustainability of life depends on balancing the needs of human society with the preservation of natural resources, an idea that can be traced back to the practices seen at places like Kanheri.

Water management at the Kanheri Caves exemplifies the Indian Knowledge System's deep understanding of environmental balance, engineering skills and sustainability. The rainwater harvesting systems, rock-cut cisterns, and water channels reflect an advanced knowledge of hydraulics, ecology and architecture that was both practically and spiritually significant. These practices were part of the broader Indian tradition of living in harmony with nature, which remains a key aspect of the Indian Knowledge System today. The ancient Buddhists at Kanheri applied this knowledge to create a sustainable environment for spiritual

¹⁴ *Op. Cit.*, Chandra Hariharan Iyer, p. 28.

¹⁵ *Ibid.*, Chandra Hariharan Iyer, p. 28.

and daily practices, demonstrating the long-standing Indian emphasis on sustainable living and respect for nature.

Thus, the Kanheri Caves stand as a remarkable testament to the ingenuity, spirituality, and intellectual depth of ancient India. From their origins as a Buddhist monastic center to their sophisticated architectural design, these caves reflect the integration of philosophy, art, and engineering in the Indian Knowledge System. The intricate carvings, inscriptions, and well-planned spaces not only highlight the region's cultural and religious significance but also provide valuable insights into ancient Indian practices and ways of life.

One of the standout features of the Kanheri Caves is their advanced water management system, which demonstrates an early understanding of sustainable practices and the harmonious relationship between human society and nature. The rock-cut cisterns and rainwater harvesting systems speak to the wisdom of ancient Indian engineers and the reverence for natural resources, a tradition still relevant in contemporary times. The Kanheri Caves offer a unique blend of history, art, architecture, and sustainable living, making them an essential part of India's rich heritage. They continue to inspire and educate us about the spiritual, intellectual, and environmental wisdom of ancient Indian civilization, reinforcing the importance of preserving knowledge for future generations.

BJ DURGADI FORT:

Durgadi Fort is a historical fort located in Kalyan, approximately 50 kilometers away from Mumbai in the Thane district of Maharashtra. It lies on the banks of the Ulhas River, giving it a strategic advantage in controlling access to the river and the surrounding region. The fort stands as a sentinel, guarding the entry to the city and providing an excellent vantage point over the surrounding area.

Historical significance of Durgadi Fort:

Durgadi Fort is believed to have been built in the 16th century during the reign of the Bijapur Sultanate to protect the area from invasions. It later became a prominent structure under the Maratha Empire and played a significant role during the Maratha wars. The fort is most notable for its association with Shivaji Maharaj, the founder of the Maratha Empire. During his time, it served strategic military purposes. The Marathas took control of the fort and used it to defend the Kalyan region.¹⁶ In the ancient Indian military tradition, forts were not just defensive structure but also hubs of knowledge, where strategic and tactical warfare were studied, and the art of defence was continuously refined. The Maratha military system, in particular, emphasized the importance of guerilla warfare, fort networks, and quick maneuverability around such forts, all of which reflect the Indian Knowledge System.

Geographical Location of Durgadi Fort:

The fort's location along Ulhas River gave it strategic significance in controlling river traffic. This allowed it to regulate trade routes and defend the region from potential invaders, particularly during the expansion of the Mughal Empire. The fort also served as a defensive stronghold against the British East India Company and Portuguese during their attempts to

¹⁶ https://en.wikipedia.org/wiki/Durgadi_Fort

seize control of coastal territories.¹⁷ In the 18th century, after the decline of the Maratha Empire, Durgadi Fort fell into disuse but continued to be a symbol of Maratha resistance against foreign rulers. The fort's connection to the Maratha Empire, particularly during the reign of Chhatrapati Shivaji Maharaj, reflects the Maratha military knowledge system—which is well-documented in historical texts, epic literature and oral traditions. This tradition of recording military history and cultural heritage is an integral part of the Indian Knowledge System.

Architectural Importance of Durgadi Fort:

Durgadi Fort is relatively small compared to other larger forts in Maharashtra. Among its features are a strong wall with several bastions (watchtowers) and gates for defense. The entrance gate is one of the fort's main architectural highlights. It is believed to have been constructed with defensive features that made it difficult for enemies to attack. The fort's stone walls were designed to withstand artillery and other forms of assault. Inside the fort, remnants of temples, barracks, and other structures can still be found, indicating that it once served both the military and spiritual needs of its occupants.¹⁸ Durgadi Fort represents an integral part of the military knowledge and strategic thinking in ancient India. Its design reflects a deep understanding of defence, mechanisms and fortification techniques that were central to the Indian Knowledge System. The use of locally sourced stone to build strong fortifications with minimal resources demonstrates a remarkable grasp of sustainability—an important aspect of the Indian Knowledge System, which traditionally emphasize living in harmony with nature.

The fort also served as a center of governance for the Maratha rulers. As a fortified structure, it most likely functioned as an administrative hub, where decisions regarding regional defence, resource management and local politics were made.¹⁹ Its role as both a military and civilian governance center reflects an important aspect of Indian political systems, where kings and leaders were not only warriors but also scholars, philosophers and administrators. This interdisciplinary approach to leadership was a fundamental element of the Indian Knowledge System.

Cultural Significance of Durgadi Fort:

Durgadi Fort holds significant cultural importance for the local community. It is home to the Durgadi Devi Temple, a revered religious site dedicated to Durgadi, a form of the Hindu goddess Durga. The temple and the fort together symbolize the integration of military and spiritual aspects of life during the fort's construction and use. Local festivals, such as Navaratri, are celebrated at the temple, attracting a large number of devotees and tourists.²⁰ The temple highlights the spiritual and cultural dimension of the fort, reflecting a common feature of many ancient Indian forts, where military and spiritual elements were often intertwined.

Indian Knowledge Systems have long recognized the connection between spirituality and everyday life, which is reflected in the design of fortresses like Durgadi. These structures

¹⁷ *Op. Cit.*, Chandra Hariharan Iyer, p. 29.

¹⁸ *Ibid.*, Chandra Hariharan Iyer, p. 29.

¹⁹ https://en.wikipedia.org/wiki/Durgadi_Fort

²⁰ *Op. Cit.*, Chandra Hariharan Iyer, p. 29

served not only as military defence strongholds but also as places of spiritual refuge. The fort and temple align with Hindu belief systems, where sacred spaces are often situated in natural settings, such as hills or riverbanks. This reinforces the deep connection between nature, spirituality and military prowess—a central theme in many aspects of Indian thought.

Water Management of Durgadi Fort:

The location of Durgadi Fort, perched on the banks of the Ulhas River, reflects a deep understanding of water management and the strategic use of natural resources. Historically, many forts in India, including Durgadi, were built near water sources to ensure a constant supply of freshwater allowing them to withstand prolonged sieges. Ancient Indian fortifications often incorporated natural resources into their defence strategies, and Durgadi Fort is no exception.²¹ Its proximity to the Ulhas River provided both, defensive advantages and sustainability by ensuring water availability for inhabitants. This exemplifies symbolizing the Indian tradition of integrating ecology and architecture. Additionally, the fort was part of a larger network of water-based defence systems, where controlling of waterways played a crucial role in military strategy.

Literary Significance of Durgadi Fort:

The historical narrative of Durgadi Fort is part of the broader tradition of Indian historiography, which has been preserved through texts, inscriptions, and oral traditions. Ancient Indian Knowledge Systems encompassed various methods of recording history, including military victories and the lives of prominent rulers. The fort's association with Maratha Empire, particularly during the reign of Chhatrapati Shivaji Maharaj, reflects the Maratha's military expertise, which is well-documented in historical texts, epic literature, and oral storytelling. This tradition of recording military history and cultural heritage remains a significant aspect of the Indian Knowledge System.

Durgadi Fort is a clear example of the multifaceted nature of the Indian Knowledge System. From its military strategies and engineering marvels, to its sustainable use of resources and spiritual significance, the fort embodies the integrated approach characteristic of Indian civilization. It reflects a harmonious blend of natural resource management, architectural ingenuity, and spiritual wisdom, pillars of the Indian Knowledge System that have been passed down through generations.

Durgadi Fort represents an important representation of the military knowledge and strategic thinking in ancient India. Its design reflects a deep understanding of defence, mechanisms and fortification techniques, which were integral to the Indian Knowledge System. Strategically along the Ulhas River and overlooking Kalyan, the fort demonstrates an advanced awareness of the surrounding geography. The positioning of forts like Durgadi along river routes was part of a broader military strategy, aimed at controlling trade routes, waterways and land access—crucial for regional defence and security.

Today, Durgadi Fort stands as a significant historical site. Despite undergoing considerable decay, it continues to attract history enthusiasts, students and tourists eager to

²¹ *Ibid.*, Chandra Hariharan Iyer, P. 29.

explore the rich heritage of the Maratha Empire. The fort is also a popular destination for heritage tourism, offering a glimpse into the military architecture of the 16th and 17th centuries. Additionally, the fort area occasionally serves as a venue for local festivals and cultural events.

Durgadi fort, along with the nearby town of Kalyan, reflects the rich cultural heritage of the region. The fort's military, religious and social history has been preserved through oral traditions and written records, both of which are integral to the Indian Knowledge System. It served as a cultural hub where the local community and military personnel would have shared knowledge on regional politics, history, military tactics and religion. In this sense, forts like Durgadi were not merely physical structures but also centres of knowledge exchange, where significant historical, political and cultural lessons were imparted.

CJ SHIVA TEMPLE OF AMBERNATH:

The Ambernath Shiva Temple, also known as the Ambreshwar Shiva Temple and locally as Puratana Shivalaya, is an ancient and renowned Hindu temple dedicated to Lord Shiva. It is situated in the town of Ambernath in the Thane district of Maharashtra. The temple stands on the banks of the Waldhuni river, approximately 2 km from Ambernath railway station (East) and about 45 kilometers from Mumbai, making it a popular pilgrimage site for devotees and tourists alike. It is one of the most significant temples in the region, known for its architectural grandeur and deep connection to India's rich cultural history.

History and Layout of Shiva Temple:

The temple is believed to have been built around the 11th century, during the reign of the Shilahara dynasty, by king Chhittaraja. Its architectural style is a stunning example of ancient Hemadpanthi architecture, characterized by intricate stone carvings and robust construction. The temple features a garbhagriha (sanctum sanctorum), where the Shiva Linga is enshrined, a mandap (hall), and a shikhara (spire) at top. Its design is influenced by the Chalukyan style giving it has a serene and timeless aura.²² The temple's architecture follows the principles outlined in ancient Indian texts such as the Vastu Shastra, which governs with the art and science of construction. Vastu Shastra not only focuses on physical design but also incorporates concepts of energy flow, cosmic alignment, and spiritual harmony.

The temple is designed so that the sun's rays illuminate the Shiva Linga at specific times of the year, showcasing the advanced astronomical and engineering knowledge of that era. Built from black stone, the structure exhibits the characteristic features of ancient Hindu temple architecture.²³ The precise alignment of the temple with celestial bodies -such as the sun's rays illuminating the Shiva Linga- reflects India's deep understanding of astronomy. Ancient Indian texts, including the Vedas and Puranas, contain extensive astronomical knowledge, which played a crucial role in guiding the design and positioning of such temples.

Cultural and Spiritual Wisdom of Shiva Temple:

²² https://en.wikipedia.org/wiki/Shiv_Mandir,_Ambarnath

²³ https://en.wikipedia.org/wiki/Shiv_Mandir,_Ambarnath

The Ambarnath Shiva Temple is particularly renowned for its Shiva Linga, which is believed to be self-manifested (Swayambhu). Situated at the center of the temple, the linga is the focal point of worship, where devotees perform the ritual of pouring water or milk over it. It is believed that the Linga has existed in the temple for centuries, enhancing its sacredness. The temple plays a significant role in local festivals, especially during the month of Shravan (July-August), when large number of devotees gather for special rituals,²⁴ known for its serene and spiritual ambiance, the temple exemplifies the integration of spiritual wisdom into daily life- a key aspect of the Indian Knowledge System. It emphasizes on the divine sacred geometry and function as a centre for community and rituals reflects the deeply rooted Indian worldview.

The Indian Knowledge System is deeply intertwined with spirituality, viewing every aspect of life- including knowledge, work and worship- as a means of connecting with the divine. Temples like the Ambarnath Shiva Temple serve not only as places of worship but also as repositories of ancient knowledge. They embody the values of sanatana dharma (eternal truth) and reflect a holistic worldview where science, spirituality, and culture seamlessly converge.

Festivals and Events at Shiva Temple:

The temple attracts thousands of pilgrims during major festivals such as Maha Shivaratri and Shravan. During these occasions, the temple is beautifully decorated, and special prayers and rituals are conducted. Other Hindu festivals are also celebrated with great enthusiasm, reflecting the deep devotion of the local community.²⁵ The worship of Lord Shiva, who represents the ultimate reality (Brahman), aligns with the philosophical traditions of Vedanta and Tantra in Indian thought, emphasizing self-realization, the interconnectedness of the cosmos, and the pursuit of liberation (Moksha).

Easily accessible by road, the temple is an ideal destination for both devotees and tourists interested in exploring the region's cultural and historical heritage. The surrounding town of Ambarnath known for its scenic beauty, provides as a serene atmosphere that perfectly complements the temple's spiritual ambiance.

The Ambarnath Shiva Temple stands as a testament to the Indian Knowledge System, illustrating how religious practices, ancient science, and culture have been interwoven to create a lasting legacy that continues to inspire and influence people today. Through its architectural precision, astronomical alignment or the spiritual teachings, the temple reflects India's profound knowledge traditions.

D] ELEPHANTA CAVES:

The Elephanta Caves are a group of ancient rock-cut temples located on Elephanta Island, approximately 11 kilometers (7 miles) away from Mumbai. Once an important centre of ancient Indian culture, these caves can be reached via a ferry from the Gateway of India. Likely part of a prominent religious and cultural hub in ancient times, The Elephanta Caves offer valuable insights into the religious practices and artistic traditions of that era.

²⁴ Visited Shiva Temple of Ambarnath, on 09/02/2025.

²⁵ *Op. Cit.*, Chandra Hariharan Iyer, p. 30

In Hinduism and other Indian traditions, certain landscapes and natural features such as mountains, rivers and islands are believed to hold sacred significance. Situated in the Arabian Sea and dedicated to Shiva, Elephanta Island may have been regarded as a spiritual centre where the human experience intersects with the divine.²⁶ The location of the Elephanta Caves is also significant within the framework of sacred geography in the Indian Knowledge System.

Historical Significance of Elephanta Caves:

The island is home to the renowned Elephanta Caves, which date back to between 5th and 7th century. The site was originally developed during the Mauryan or Gupta periods, though it is most closely associated with the Chalukya and Rashtrakuta dynasties. The name "Elephanta" was given by the Portuguese in the 16th century after they discovered a large elephant statue on the island. However, the island was historically known by indigenous names like Gharapuri.²⁷ The Elephanta Caves are not only an important archaeological and architectural site but also hold deep connections to the Indian Knowledge System.

Philosophical and Religious Insights of Elephanta Caves :

The Elephanta caves are divided into two main sections : the Hindu caves and the Buddhist caves. These caves are renowned for their intricate sculptures and carvings. The Hindu caves feature magnificent rock-cut sculptures dedicated to Lord Shiva, depicting various aspects of the deity. The most prominent among them is Cave No. 1, known for its impressive sculptures including the famous Trimurti sculpture of Lord Shiva. The Buddhist caves at Elephanta are smaller and less well-preserved.²⁸ The Elephanta Caves showcases carvings of Lord Shiva, one of the principal deities in Hinduism, in multiple forms. The Trimurti Sculpture, one of the most iconic works of ancient Indian art, portrays Shiva in his three fundamental aspects: the Creator (Brahma), the Preserver (Vishnu), and the Destroyer (Shiva).

The intricate and well-preserved carvings in the caves depict scenes from Hindu mythology, including the marriage of Shiva and Parvati and stories of Lord Shiva's cosmic dance.²⁹ The rich mythology surrounding Shiva embodies, deep philosophical concepts related to cosmology, creation, preservation, destruction, and liberation (moksha). It also reflects an understanding of time, space, and the cyclical nature of existence, key elements of Indian philosophy, such as Samsara (the cycle of birth, death, and rebirth).

Spiritual Knowledge and Meditation of Elephanta Caves :

The Elephanta Caves are not merely artistic or architectural marvels; they also serve as spaces for meditation and spiritual practice. The layout and design of the caves, along with their intricate carvings and sculptures,³⁰ were intended to create a conducive environment to

²⁶ *ibid.*, Chandra Hariharan Iyer, p. 31.

²⁷ <https://whc.unesco.org/en/list/244/>

²⁸ https://en.wikipedia.org/wiki/Elephanta_Caves

²⁹ Visited Elephanta Caves on 26/03/2024.

³⁰ Visited Elephanta Caves on 26/03/2024

spiritual reflection and contemplation, essential aspects of the Indian Knowledge System. Dhyana (meditation) was a core practice in Indian spiritual traditions, and these caves may have been used for the practice of yoga and meditative thought.

The layout of the caves, the interplay of light and shadow, and the positioning of the sculptures were likely designed to represent a cosmic journey—from ignorance (symbolized by the dark, enclosed spaces) to enlightenment (symbolized by the light entering the cave).³¹ The design of the Elephanta Caves reflects the Indian worldview, where the blend of architecture and spatial arrangements serve as symbolic representations of larger cosmological principles. The peaceful, dimly lit interiors, combined with the imagery of divine beings, may have been intended to aid practitioners towards spiritual illumination.

Shiva's Cosmic Dance and Knowledge of the Universe at Elephanta Caves :

One of the most significant aspects of the Elephanta Caves is the depiction of Shiva's cosmic dance (Nataraja). More than just an artistic expression, it symbolizes the rhythmic cycles of the universe. Shiva's dance is often interpreted as a representation of the dynamic interplay between the forces of creation, preservation and destruction, encapsulating the cyclical nature of life and the cosmos. This concept is deeply embedded in the Indian Knowledge System and closely tied to the science of time (Kala).³² Shiva's dance can also be seen as a metaphor for the cosmic governing forces creation and destruction. It reflects the early Indian understanding of cosmic cycles, which were intricately linked to the study of time, planetary movements, and the five fundamental elements- earth, water, fire, air, and space known as Pancha Mahabhutas.

The Elephanta Caves are not just a site of historical and religious significance but also a remarkable showcase of ancient Indian art and architecture. Recognising their cultural importance, designated them as a UNESCO World Heritage Site in 1987. The sculptures and carvings found within the caves serve as visual representations of spiritual and philosophical truths. The artistic forms in the caves rooted in classical Indian iconography, these artistic forms follow a deep philosophical and symbolic framework. Every posture, gesture (mudra), and facial expression of the gods and goddesses carved in the caves carries profound meanings related to spiritual wisdom and cosmic balance.

Over the years, the caves have faced challenges such as erosion, pollution and vandalism. However, they continue to attract tourists and history enthusiasts alike. For anyone visiting Mumbai, the Elephanta caves are a must-see destination for exploring India's rich cultural heritage.

EJ BANGANGA TANK:

Banganga Tank is a historic water tank located on Malabar Hill, a prominent area in South Mumbai. Surrounded by a peaceful and serene environment, it is nestled among temples, narrow streets and historic buildings. The location serves not only as a place of worship but also as a popular destination for visitors interested in Mumbai's history and architecture. It holds significant cultural and religious importance, particularly in Hindu tradition.

³¹ Visited Elephanta Caves on 26/03/2024

³² *Op. Cit.*, Chandra Hariharan Iyer, p. 30.

Historical Importance of Banganga Tank:

Banganga Tank is part of the Walkeshwar Temple Complex, which is dedicated to Lord Shiva. It is believed to be one of the oldest temples in Mumbai, with origins dating back to the 12th century. The temple is said to have been built by Lakshman Prabhu, a minister in the court of the Shilahara dynasty. However, some believe it existed even before the 12th century, possibly during the time of the epic Ramayana,³³ as it is often linked to older references in Hindu mythology.

The tank is believed to have been created by Lakshmana, the brother of Lord Rama to quench the thirst of Lord Rama and his army during their exile. Its name, *Banganga*, is derived from the *Ramayana*, where Lakshmana, is said to have shot an arrow into the ground, causing a spring to emerge and provide water for his thirsty army.³⁴ Both the temple and the tank are considered sacred by Hindus and are an integral part of Mumbai's rich cultural heritage.

Religious and Cultural Significance of Banganga Tank:

The Banganga Tank and the Walkeshwar Temple Complex hold deep spiritual significance, serving as important sites where pilgrims perform various rituals and practices integral to Hindu religious life.³⁵ These activities not only reflect the sacred nature of the site but also preserve cultural and spiritual traditions passed down for centuries. Across India, sacred water tanks or wells like Banganga are commonly found in temples and are closely linked to ancient knowledge systems.

One of the central practices at Banganga Tank is the holy dip (or Snana), which pilgrims believe purifies the soul and washes away sins. The water of the Banganga Tank is considered sacred and taking a dip here is thought to bring spiritual merit, especially due to its association with the Ramayana and its connection to Lord Rama.³⁶ This practice is not only religiously significant but also deeply rooted in history, linking to the ancient traditions of water worship, that are an integral part of the Indian Knowledge Systems.

The act of immersion in water symbolizes ritual purification, a common practice in Hinduism.³⁷ Water is regarded as a purifier both physically and spiritually. This practice of bathing in holy tanks is widespread across India, with its significance rooted in the belief that it cleanses both body and soul of impurities.

Pilgrims offer prayers or perform cleansing pujas (religious rituals) at the tank, seeking blessings for themselves and their families. These pujas may involve the offering of flowers, incense and other items to the deities associated with the tank and the Walkeshwar Temple. The offerings are made with devotion, accompanied by chanting of sacred hymns and mantras.³⁸ The site is considered a place where devotees can seek blessings for peace, prosperity and spiritual growth. It is believed to invoke divine grace.

³³ *Ibid.*, Chandra Hariharan Iyer, p. 31.

³⁴ *Ibid.*, Chandra Hariharan Iyer, p. 31.

³⁵ *Ibid.*, Chandra Hariharan Iyer, p. 31.

³⁶ *Ibid.*, Chandra Hariharan Iyer, p. 31.

³⁷ *Ibid.*, Chandra Hariharan Iyer, p. 31.

³⁸ *Ibid.*, Chandra Hariharan Iyer, p. 31.

Philosophical and Architectural Overview of Banganga Tank:

The Banganga Tank is a rectangular water body, surrounded by stone steps on all sides, allowing pilgrims to descend into the water. The stone steps, which lead directly into the tank, are meticulously designed and allow devotees to descend into the water to take their holy dip. The walls and columns are adorned with stone sculptures and reliefs, reflecting the artistic traditions that flourished during the medieval period.³⁹ The tank's design reflects an ancient tradition of constructing sacred water bodies with a symmetrical and purposeful layout, ensuring the water remains clean and pure, suitable for religious rituals. The stone steps are a key feature of the design and symbolizing the physical act of entering a sacred space, stepping into purified environment and partaking in the spiritual ritual.

The layout of the tank and the temples likely follows the principles of Vastu Shastra, an ancient Indian architectural system that aligns structures with the natural world, ensuring harmony between physical space and spiritual energy.⁴⁰ Vastu Shastra integrates knowledge of energy flow, geometry and the nature to create a space that is both spiritually and physically harmonious.

The tank is not just a symbolic structure; it also showcases sophisticated ancient water management techniques commonly used in traditional Indian architecture. The water is maintained in a manner suitable for the religious and ritualistic needs of pilgrims. Temple tanks were also designed to ensure a year – round water supply, especially in regions prone to water scarcity. The architecture surrounding the Banganga Tank reflects classic Hindu temple design, featuring elements such as shikhara (spires), mandapas (pillared halls), and garbhagrihas (inner sanctums). These architectural elements are intended to create an atmosphere of reverence allowing devotees to connect with the divine.

The Banganga Tank, surrounded by stone steps and intricate temples adorned with beautiful carvings, is not only a site of religious significance but also an artistic treasure that reflects India's rich cultural and spiritual history. The temple's architecture, stone carvings and rituals performed here serve as a testament to the artistic legacy of ancient India, showcasing the deep connection between spirituality and art. This sacred site offers visitors an opportunity, not only to connect with their faith but also to experience the artistic brilliance of bygone eras.

The Banganga Tank is not merely a historical and religious site but also a testament to the integration of Indian Knowledge Systems into daily life. These systems embody a profound understanding of nature, the cosmos and human existence, reflected in the reverence for water, architecture, spiritual practices and ecological wisdom.

This site exemplifies how India's ancient knowledge of water management, environmental sustainability, spiritual philosophy, and architecture continues to shape the cultural and intellectual landscape, making it a vital part of the broader framework of Indian Knowledge Systems.

F] JOGESHWARI CAVES:

The Jogeshwari Caves are ancient rock-cut caves located in the western suburbs of Jogeshwari, carved into the hills of the region. Originally known as the Amboli Caves, they are

³⁹ <https://wanderon.in/blogs/banganga-tank-in-mumbai>

⁴⁰ <https://www.mcgm.gov.in/irj/go/km/docs/documents/D%20Ward/Heritage-Sites/Heritage-43.pdf>

a fascinating historical site. These caves are among the largest and oldest Hindu rock-cut cave complexes in the region. Easily accessible via local transport, they are a popular destination for history enthusiasts, archaeologists and spiritual visitors.

Historical Background of Jogeshwari Caves:

The Jogeshwari Caves are part of a series of rock – cut caves with Buddhist origins. They are believed to have been created between the 6th and 8th centuries, during the Vakataka dynasty and the Gupta period. Before the construction in the 6th century, the region was already home to Buddhist shrines built during the 1st and 2nd centuries BCE under the Vakataka dynasty.⁴¹ The influence of these early Buddhist structures can be seen in the later development of the Jogeshwari Temple Caves. They are thought to have once served as a Buddhist monastery and their architectural exhibits elements of both Hindu and Buddhist styles. The history of the Jogeshwari Caves is deeply rooted in India's rich Buddhist and Hindu architectural heritage.

Architectural Genius of Jogeshwari Caves :

The Jogeshwari Caves are surrounded by rock formations on both sides, creating a dramatic and unique setting. The entrance to the caves is marked by a flight of stairs. The main attraction of the Jogeshwari Caves is the large central cave, one of the largest rock-cut caves in Mumbai. This cave has an impressive frontage and contains various sculptures and carvings, including depictions of Buddhist deities. It also features an intricate design with a large central hall, supporting columns and several smaller chambers around it.⁴² Like other ancient Hindu caves, these structures represent the historical practice of carving temples and shrines into rock faces, a common architectural method in ancient India. Possessing cultural and historical value, these caves provide a striking contrast between modernity and ancient structure.

The caves are spacious and feature a single main hall or sanctuary supported by multiple pillars. The interior is adorned with relief sculptures depicting various Hindu deities and scenes from mythology,⁴³ showcasing the artistic craftsmanship of the time. This architectural style reflects the advanced engineering knowledge of ancient India. The Jogeshwari Caves were likely used for both religious and social gatherings.

The cave complex is a blend of architectural styles, featuring rock-cut shrines, courtyards and intricate carvings. A prominent sculpture of Lord Shiva is present within the cave, along with other representations of gods and goddesses.⁴⁴ This site stands as a fascinating testament to India's rich architectural heritage history and its evolving religious and cultural landscape over the centuries.

Religious Importance of Jogeshwari Caves:

⁴¹ <https://timesofindia.indiatimes.com/travel/things-to-do/jogeshwari-caves-all-you-need-to-know-about-the-first-and-largest-hindu-temple-caves-in-india/articleshow/63594802.cms>

⁴² *Op. Cit.*, Chandra Hariharan Iyer, p. 33.

⁴³ *Ibid.*, Chandra Hariharan Iyer, p. 33.

⁴⁴ *Ibid.*, Chandra Hariharan Iyer, p. 33.

Originally Buddhist, the caves were later used by Hindus, with a small temple built inside, dedicated to the goddess Jogeshwari. Numerous smaller chambers within the caves were possibly used for meditation or as living quarters for monks or religious figures.⁴⁵ The caves are believed to have served as places of worship and meditation. Over time, the site became an important religious center for both Hindu and Buddhist pilgrims. Additionally, the caves may have played a significant role as centers for the exchange of knowledge and culture.

The central temple, dedicated to Lord Shiva, is an important example of early Hindu cave architecture. It houses intricate carvings and sculptures of Hindu deities, including Lord Vishnu and Lord Ganesha.⁴⁶ The carvings skillfully utilize symbolism and iconography to convey religious and philosophical ideas.

The Jogeshwari Caves are part of India's rich tradition of rock-cut temples and caves, similar to the Ajanta and Ellora caves. These sites are renowned for their historical significance as centers of learning, spirituality and artistic expression. The carvings and sculptures in these caves reflect not just religious devotion but also the advanced knowledge of their creators in fields such as geometry, astronomy and symbolism.

In the broader context of the Indian Knowledge System, the Jogeshwari Caves offer insight into how ancient Indians engaged with concepts of divinity, the cosmos and the self-ideas that continue to shape Indian culture, philosophy and intellectual traditions.

The Jogeshwari Caves are significant historical and cultural landmark, providing insights into the ancient Indian Knowledge System. They exemplify the sophistication of Indian art, architecture and philosophy, showcasing a rich tradition of intellectual and spiritual life that dates back centuries. Through their artistic and religious significance, these caves help deepen our understanding of the depth and breadth of ancient Indian knowledge.

GJ MAHAKALI CAVES:

The Mahakali Caves are a group of ancient rock-cut Buddhist caves located in the western suburbs of Mumbai, in Andheri. Situated on a hill, they offer a beautiful view of the surrounding landscapes. These caves are also known as the Kondivite caves due to their proximity to Kondivite village. They are a popular destination for tourists and pilgrims alike. The site is well-maintained and provides a peaceful environment for reflection and exploration.

Historical Significance of Mahakali Caves:

The Mahakali caves date back to between the 1st century BCE and the 6th century CE and are primarily known for their historical and religious importance. They are part of a larger group of caves in the Mumbai region that reflect ancient Buddhist monastic traditions. Believed to have been used by Buddhist monks for dwelling and meditation, these caves date back to the Maurya Empire, specifically during the reign of Emperor Ashoka, around 2,000 years ago.⁴⁷ Like many other ancient rock-cut caves in India, the Mahakali Caves offer a deep connection not only to ancient Indian history but also to the Indian Knowledge System. These caves reflect

⁴⁵ *Ibid.*, Chandra Hariharan Iyer, p. 33.

⁴⁶ *Ibid.*, Chandra Hariharan Iyer, p. 33

⁴⁷ <https://sadhanassblog.wordpress.com/2021/10/03/glorious-past-of-mumbai-mahakali-caves/>

India's rich Buddhist heritage, which remains an integral part of the country's historical and cultural legacy.

Architectural and Spiritual Knowledge of Mahakali Caves:

The Mahakali Caves comprise of 19 caves, four of which are Buddhist Viharas (monasteries) while the rest are Chaityas (prayer halls). Carved out of basalt rock, these caves were likely used as meditation and living spaces for Buddhist monks.⁴⁸ Designed as scheduled spaces for quiet reflection, they provided an environment free from the distractions of the outside world. This architectural choice reflects the significance of silence in Indian Knowledge Systems, where contemplation and introspection are considered essential for higher knowledge or self-realization (Atman).

One of the most notable features of the Mahakali caves is the stupa inside Cave No. 9, an important Buddhist symbol. The stupa is believed to have served as a place for meditation and worship, representing the Buddha's teachings.⁴⁹ The architecture and layout of the Mahakali Caves were specifically designed to facilitate meditation and deep contemplation, which are core elements of Buddhist practice.

The caves feature several sculptures and carvings depicting Buddhist deities, motifs and scenes from the life of the Buddha. Some caves contain detailed images of the Buddha, along with Bodhisattvas and other Buddhist figures,⁵⁰ representing a significant part of India's artistic heritage. These works are part of a broader tradition of Indian sculpture and iconography, which plays a crucial role in transmitting knowledge about religious beliefs, moral lessons and the human condition.

The Mahakali caves, particularly the Chaitya halls and Viharas (monasteries), served as educational and spiritual centres where monks studied Buddhist scriptures, engaged in debates, and propagated the teachings of the Buddha. This tradition of learning in spiritual spaces is closely tied to India's rich history of knowledge transfer, where education extended beyond material or secular topics to include profound spiritual wisdom.

The Mahakali Caves, like many other ancient rock-cut caves in India, provide a profound connection to the Indian Knowledge System, particularly in the realms of Buddhism, philosophy, art and architecture. These caves serve as repositories of cultural, religious and intellectual traditions offering valuable insights into India's historical knowledge heritage.

These Caves contribute to the holistic understanding of spirituality in ancient India. They stand as a testament to the intellectual and cultural achievements of their time and remain a key symbol of how knowledge in ancient India was developed, transmitted and preserved. The caves showcases intricate rock-cut architecture, including pillars, entrances and carvings that reflect Buddhist culture. This exemplifies the Indian tradition of Jnana (knowledge) and Dhyana (meditation), both integral to the pursuit of spiritual and intellectual development. The artwork and inscriptions within the caves offer valuable insights into the cultural and religious practices of the time.

⁴⁸ https://en.wikipedia.org/wiki/Mahakali_Caves

⁴⁹ https://en.wikipedia.org/wiki/Mahakali_Caves

⁵⁰ *Op. Cit.*, Chandra Hariharan Iyer, p. 33.

APPRAISAL:

The evolution of the Indian Knowledge System (IKS) is a fascinating journey that spans thousands of years and reflects the cultural, spiritual and intellectual development of the Indian Subcontinent. It has evolved over the centuries through the contributions of numerous philosophers, scholars, saints and scientists. The remarkable history of evolution contributed to shape Indian Knowledge System.

The evolution of the Indian Knowledge System has been a dynamic process. From the Vedic period to the present day, Indian Knowledge System has remained a rich living tradition that continues to shape not only Indian society but also global thought.

Indian Knowledge System is the Indian school of thought or Hindu Philosophy and encompasses a rich and diverse body of knowledge, beliefs and practices. This knowledge system is deeply rooted in the ancient Vedic scriptures and has influenced not only India's cultural and spiritual landscape but also contributed to global intellectual traditions.⁵¹ Therefore, the Indian Knowledge System has offered not only a framework for personal growth and spiritual enlightenment but also a blueprint for living harmoniously with nature and society.

The Indian Knowledge System is not just a historical relic but a living tradition that continues to guide millions. Its holistic approach to knowledge, integrating the physical, mental and spiritual realms, offers valuable lessons for contemporary society. By preserving and passing down these teachings, India continues to contribute to global philosophical and ethical thought. The Indian Knowledge System also shapes contemporary spiritual, intellectual and cultural debates, especially in an increasingly globalized world.

Mumbai boasts a rich historical and cultural heritage, featuring sites that range from ancient temples to colonial architecture and historical landmarks. Exploring these places offer insights into how history has shaped the city's current landscape and culture.

Mumbai's proximity to ancient trade routes, its coastal location and its status as a cultural crossroads enabled it to become an integral part of the broader Indian Knowledge System. The city's early and continuous involvement in trade, religion and intellectual exchange facilitated the transmission of ancient knowledge in fields such as mathematics, astronomy, medicine and philosophy. Today, Mumbai still carries the legacy of these ancient connections, acting as a bridge between the traditional knowledge of India and modern intellectual pursuits.

Mumbai has always been a place where people from all corners of India and the world have come to pursue their dreams and its spirit is contagious. For future generations, the city will continue to be a beacon of hope, opportunity and transformation. It is a place where dreams are not only imagined but also built through resilience, creativity and the pursuit of excellence. By incorporating these cultural activities, the younger generation in Mumbai will not only develop a sense of pride in their heritage but also feel motivated to preserve and pass it on to future generations. Mumbai's unique blend of cultures, languages and traditions provides a

⁵¹ Dr. Rajesh Timane and Dr. Priyanka Wandhe, *Indian Knowledge System*, Journal of Emerging Technologies and Innovative Research (JETIR), Volume 11, Issue 2, ISSN : 2349-5162, February 2024, p. 514.

beautiful foundation for these efforts, ensuring that the city's heritage remains vibrant and relevant.

The Kanheri Caves are not only a place of historical and religious significance but also represent a key site where various strands of Indian spiritual, philosophical, artistic and scientific knowledge intersected. Through these caves, we gain an insight into the intellectual vibrancy of ancient India, particularly in how knowledge was transmitted, preserved and integrated within a monastic community. Durgadi Fort serves as an embodiment of multiple facets of the Indian Knowledge System. From military architecture and strategic planning to cultural resistance and political governance, the fort reflects the depth of knowledge possessed by Indian rulers - particularly the Marathas- in shaping their societies and defending their territories.

The Shiva Temple of Ambarnath is a profound example of how the Indian Knowledge System was integrated into various aspects of life, including architecture, religion, astronomy, mathematics and art. The Elephanta Caves are a profound embodiment of the Indian Knowledge System, merging art, philosophy, spirituality and science. They are not only a testament to India's rich artistic heritage but also a reflection of ancient India's quest to understand the universe, existence and the divine.

The Banganga Tank, surrounded by stone steps and intricate temples with beautiful carvings, is not only a place of religious significance but also an artistic treasure that reflects India's rich cultural and spiritual history. The Jogeshwari caves stand as a testament to India's tradition of rock-cut architecture, Hindu devotional practices and the transmission of religious knowledge. The Mahakali caves represent a synthesis of the intellectual traditions of ancient India, particularly Buddhism and showcase a sophisticated understanding of engineering, artistic design and religious practice.

The conservation of Relevant sites in the vicinity of Mumbai is not only an effort to preserve the past but also an essential part of safeguarding the city's identity for future generations. While there are several challenges, such as urbanization, pollution and tourism, the combined efforts of the government, NGOs, the private sector and local communities offer hope for the long-term preservation of Mumbai's rich cultural heritage. By prioritizing sustainable development, integrating heritage conservation into urban planning and raising public awareness, we can ensure that Mumbai's ancient sites continue to inspire and educate people for generations to come.

There have been efforts to preserve the fort's historical integrity, although much of it remains in ruins due to natural wear and neglect. Local authorities and historical organizations have expressed interest in preserving and promoting the fort as a cultural heritage site. Several measures have been undertaken by the government, non-governmental organizations (NGOs) and other stakeholders to conserve Mumbai's ancient sites. Mumbai has several buildings and structures that are part of UNESCO's World Heritage Sites, including the Elephanta Caves. These sites receive funding and support for restoration under UNESCO's heritage programs.

The Archaeological Survey of India plays a key role in the conservation and preservation of ancient sites, such as the caves, temples and historic monuments. It is involved in the scientific restoration of monuments, providing necessary funding and ensures that ancient heritage is maintained according to established standards. Established by the state

government, the Mumbai Heritage Conservation Committee (MHCC) is responsible for safeguarding heritage buildings and areas in Mumbai. The committee evaluates the heritage significance of structures and provide guidelines for their restoration and preservation.

Several NGOs and private organizations, such as INTACH (Indian National Trust for Art and Cultural Heritage), are actively involved in promoting awareness and supporting the restoration of heritage sites. Initiatives like "Mumbai Heritage Walks" and heritage tourism programs are helping to raise awareness about the importance of conserving and sustainability of heritage buildings and areas.

Public engagement and awareness programs are crucial for promoting the importance of conserving ancient sites. Campaigns that educate the public about the cultural and historical significance of these sites can generate local support for conservation efforts. With technological advancements, the digital preservation of heritage sites has become possible. Several organizations are using 3D scanning, photogrammetry and virtual reality (VR) to digitally document ancient monuments. This enables virtual restoration and preservation of the sites in event of physical damage.

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