

AJANTA AND ELLORA CAVES: A COMPARATIVE GEOGRAPHICAL, HISTORICAL, AND CULTURAL PERSPECTIVE

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Article Info	ABSTRACT
<p>Article History: Received: 18th Sep 2025 Accepted: 02nd Oct 2025 Published: 17th Oct 2025</p> <hr/> <p>Keywords: Ajanta, Ellora, Deccan Trap, Rock-cut architecture, Buddhist art, Cultural landscape, Sahyadri ranges.</p>	<p>The comparative study of the Ajanta and Verul caves in Maharashtra examines the influence of geography, history and culture on two of India's most important UNESCO World Heritage Sites (enshrined in 1983). The Ajanta Caves (2nd century BCE – 6th century CE), carved into a 76-metre-high horseshoe-shaped basalt cliff overlooking the valley of the Waghora River, contain 30 caves, famous for their frescoes, viharas and chaityas. Verul, spread over 2 km along a basalt cliff, contains 34 caves reflecting Buddhist, Hindu and Jain traditions, including the Kailash Temple (Cave 16), the largest intact rock-cut temple in the world. In 2022-23, Ajanta received over 4.01 lakh domestic and 10,000 foreign tourists, while Verul welcomed over 1.43 lakh domestic and 12,000 foreign tourists, making it one of the most visited ASI monuments in India. Methodologically, the study combines descriptive, analytical and comparative approaches, including field observations, ASI/UNESCO reports and statistical data. The findings show that Ajanta's secluded geography fostered meditation and narrative art, while Verula's trade-route location enabled large-scale architectural activity, dynastic patronage and religious pluralism. Despite their global appeal, both sites face serious challenges: Ajanta's delicate murals suffer from humidity and crowding, while Verula struggles with climate, vibration and water seepage. The study concludes that sustainable tourism management, informed by geophysical analysis, is crucial to preserving these living cultural landscapes as enduring symbols of India's artistic excellence and historical depth.</p>

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INTRODUCTION

Heritage tourism is one of the fastest growing sectors in India and the Ajanta and Verula caves in Maharashtra are among the most visited. Both the caves were declared UNESCO World Heritage Sites in 1983, giving them global recognition and attracting millions of tourists every year. Tourism here not only preserves cultural identity but also contributes significantly to the local economy through employment, hospitality services and infrastructure development. The Ajanta Caves (2nd century BC - 6th century AD), carved into the horseshoe-shaped valley of the Waghora River, are famous for their murals and monasteries. Once a haven for Buddhist monks, Ajanta now welcomes tourists from all over the world. In 2022-23 alone, the caves recorded around 4.01 lakh domestic tourists and over 10,000 foreign tourists. During the peak season (October-January), the number of daily visitors ranges from 4,000 to 5,000, while during the off-season, the number decreases to around 1,000 daily. The Verul Caves (6th - 12th centuries) located on an ancient trade route are famous for their religious diversity - Buddhist, Hindu and Jain monuments are located here. The majestic Kailash Temple, being the largest monolithic rock-cut temple in the world, is the main attraction. Verul consistently receives more tourists than Ajanta; in 2022-23, it recorded over 1.43 million domestic tourists and over 12,000 foreign tourists, making it one of the most visited ASI monuments in India. Together, Ajanta and Verul form cultural and geographical landmarks where art, religion and natural landscapes come together. Their global tourist appeal highlights the role of heritage tourism in not only preserving these masterpieces but also in sustaining the socio-economic fabric of Maharashtra.

NEED FOR STUDY

The study of Ajanta and Verula caves is important because it brings together heritage, geography, culture and tourism in a single framework. Recognized as a UNESCO World Heritage Site, these caves are a treasure trove of Indian art and architecture, but they are facing increasing challenges due to natural climate, increasing tourist pressure and environmental changes. Therefore, a geographical analysis is needed to understand how their location, geological structure and climatic conditions have shaped their development as well as their conservation.

Tourism adds another dimension to this need. Ajanta and Verula are among the most visited monuments in India, which creates economic opportunities for the region while also putting pressure on infrastructure and conservation. Examining tourism trends and accessibility helps in planning sustainable heritage tourism that benefits local communities without compromising the integrity of the monuments.

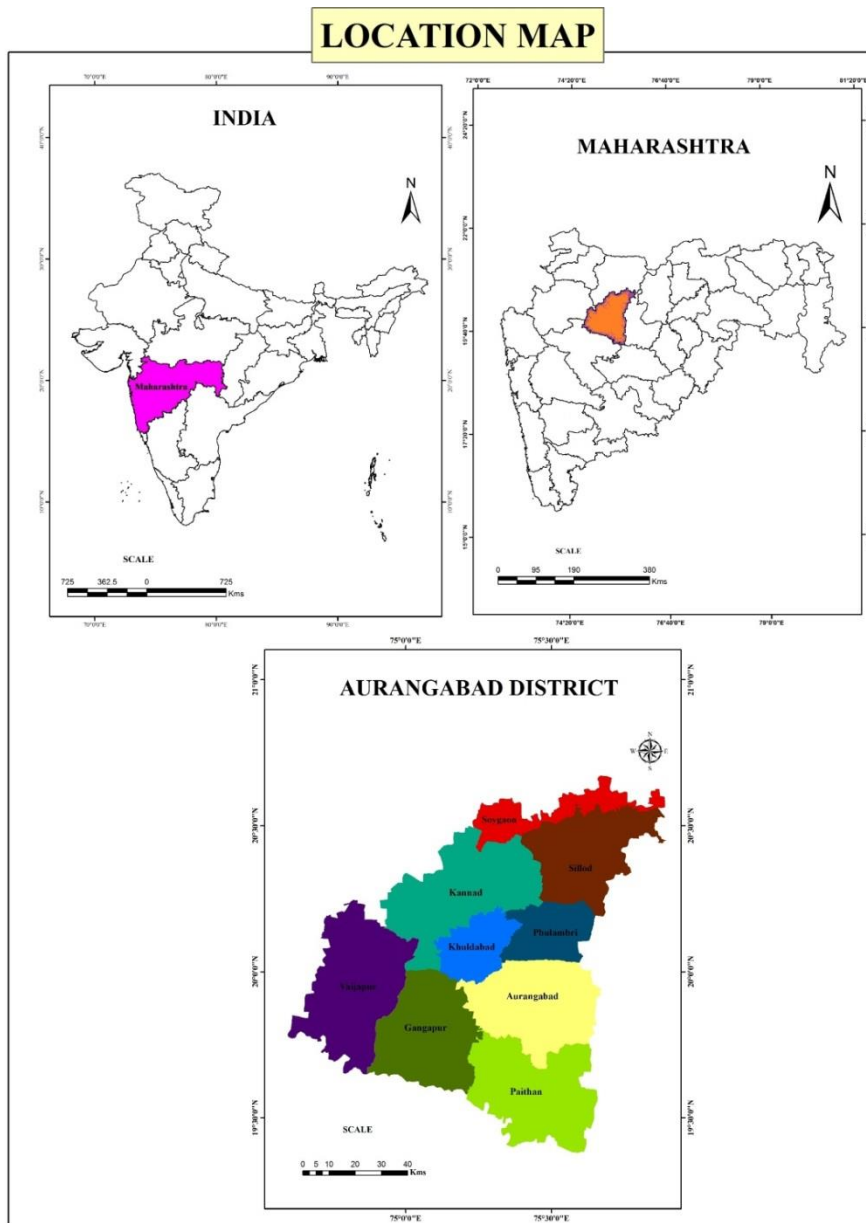
Equally important is the cultural and religious value of these sites. Ajanta represents the meditative retreat of Buddhist monks and is world-famous for its frescoes, while Verula

demonstrates religious coexistence through its Buddhist, Hindu and Jain monuments. Understanding how geography influenced this cultural and artistic development highlights the broader relationship between nature and human creativity.

In this context, there is a need for studies to link geography with heritage conservation and tourism development, ensuring that Ajanta and Verula continue to serve as living symbols of India's cultural pride while contributing to academic research, policy-making and sustainable regional development.

STUDY AREA

The Ajanta and Ellora Caves are located in the Aurangabad district of Maharashtra, representing two of the most significant heritage sites of India. The Ajanta Caves lie about 107 km north of Aurangabad, positioned at 20°30' N latitude and 75°40' E longitude, along a horseshoe-shaped basalt cliff nearly 76 meters high that overlooks the Waghora River valley. This secluded physiographic setting provided an ideal retreat for Buddhist monks during the monsoon season and became a centre for meditation, art, and intellectual discourse. In contrast, the Ellora Caves are situated around 30 km northwest of Aurangabad at 20°02' N latitude and 75°10' E longitude, directly along an ancient trade route that connected the western ports of Maharashtra with the inland cities of Paithan, Ter, and Bhokardan. Unlike Ajanta's isolation, Ellora's location made it a cultural crossroads, encouraging patronage and large-scale religious activity. Geologically, both Ajanta and Ellora belong to the Deccan Trap formation of basalt dating back nearly 65 million years. The fine-grained basalt at Ajanta was particularly suited for murals and delicate sculptures, while the horizontally layered volcanic flows at Ellora enabled the excavation of massive monolithic structures such as the Kailasa Temple. Climatically, both sites fall under a semi-arid zone in the rain-shadow of the Western Ghats, with seasonal streams like the Waghora at Ajanta and the Elaganga at Ellora enriching the landscape and enhancing the spiritual atmosphere. Culturally, Ajanta is exclusively Buddhist, flourishing between the 2nd century BCE and 6th century CE, whereas Ellora represents a religious conglomeration of Buddhism, Hinduism, and Jainism between the 6th and 12th centuries CE.



OBJECTIVES OF THE STUDY:

1. To examine the geographical setting of Ajanta and Ellora caves.
2. To analyze their geological background and environmental context.
3. To trace the historical and cultural significance of the caves.
4. To evaluate the comparative role of geography in shaping their development.

DATABASE AND METHODOLOGY

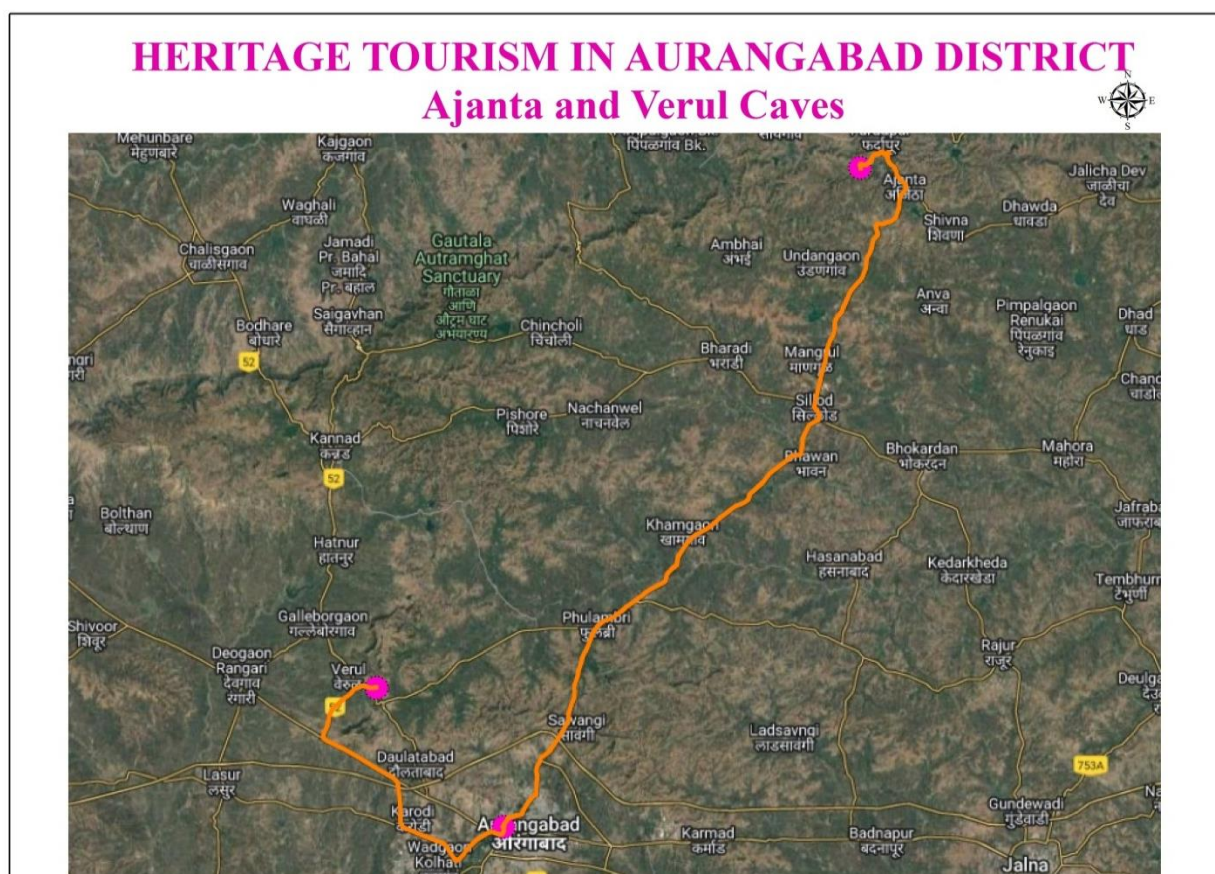
The present study on Ajanta and Verula caves is based on primary and secondary sources of information. Primary data was collected by visiting the caves, directly observing their geographical setting, architectural features, tourist movements and photographic documentation. Interactions with local guides, tourism officials and visitors provided insights into tourism practices, conservation issues and the role of heritage tourism in the region. Secondary data were obtained from published works of the Archaeological Survey of India (ASI), UNESCO reports,

academic journals, government publications and books on Indian art, architecture and geography. In addition, statistical data on tourism were collected from the Ministry of Tourism, Government of India, particularly from the “India Tourism Statistics” reports. Historical descriptions and cultural references were supplemented by traveller accounts and previous archaeological surveys. The methodology of the study combines descriptive, analytical and comparative approaches. The descriptive method is used to explain the geographical setting, geological structure and cultural development of the caves. An analytical approach is used to examine the relationship between geography, tourism and heritage conservation, interpreting statistical data on tourist numbers and conservation issues. A comparative approach highlights the differences and similarities between Ajanta and Verula in terms of chronology, geography, religion and tourist importance.

HISTORICAL AND CULTURAL DEVELOPMENT

Ajanta Caves

Geographical Setting: The Ajanta Caves are located in a remote gorge of the Waghora River valley, about 107 km north of Aurangabad in Maharashtra. The caves are carved into a **horseshoe-shaped basalt cliff nearly 76 meters high**, which curves gracefully around the valley. This natural setting provided a calm and secluded environment, essential for the Buddhist monks who retreated here during the rainy season (*Vassavasa*). The river ensured water supply, while the surrounding forests offered resources for daily living and spiritual isolation from urban centres. The geomorphology of the basalt cliffs, formed from ancient Deccan Trap volcanic flows,



Source:- Compiled by Researcher Based on Google Earth Images, 2023

was ideal for excavation, allowing artisans to carve detailed chaityas, viharas, and mural surfaces. The caves' geographical isolation meant they were "lost" for centuries until rediscovery in 1819 by a British officer, which has since transformed the site into an international heritage attraction.

Historical Context: The Ajanta Caves span two major historical phases. The **early phase (2nd century BCE–1st century CE)** corresponds to the Hinayana tradition of Buddhism. In this period, caves such as **9 and 10 (chaityagrihas)** and **12, 13, and 15A (viharas)** were excavated, with stupas as the focal point of worship. Wooden architectural forms were imitated in stone, with carved rafters and beams symbolizing continuity from earlier traditions. The **later phase (5th–6th century CE)** flourished under the patronage of the **Vakataka dynasty**, contemporaries of the Guptas. Inscriptions reveal that Varahadeva, the minister of King Harishena, and other feudatories financed the excavation of **Caves 16 and 17**, among others. This period marked the introduction of Buddha images in sculptural and painted forms, reflecting the Mahayana shift in Buddhist practice.

Cultural Significance: Ajanta is most celebrated for its **murals and paintings**, which are regarded as masterpieces of Indian art. Painted with natural pigments on lime-wash surfaces, the murals depict **Jataka tales**, scenes from the life of the Buddha, celestial beings, and glimpses of everyday social life such as processions, markets, and royal courts. They reveal remarkable skills in shading, perspective, and emotional expression, setting them apart from earlier art traditions. The ceilings are adorned with **geometric patterns, floral motifs, and decorative designs**, enhancing the spiritual aura of the interiors. These works embody the meditative and didactic role of art in Buddhism, as paintings served both to instruct the faithful and to inspire devotion. Ajanta thus stands as a spiritual and artistic landmark of ancient India.

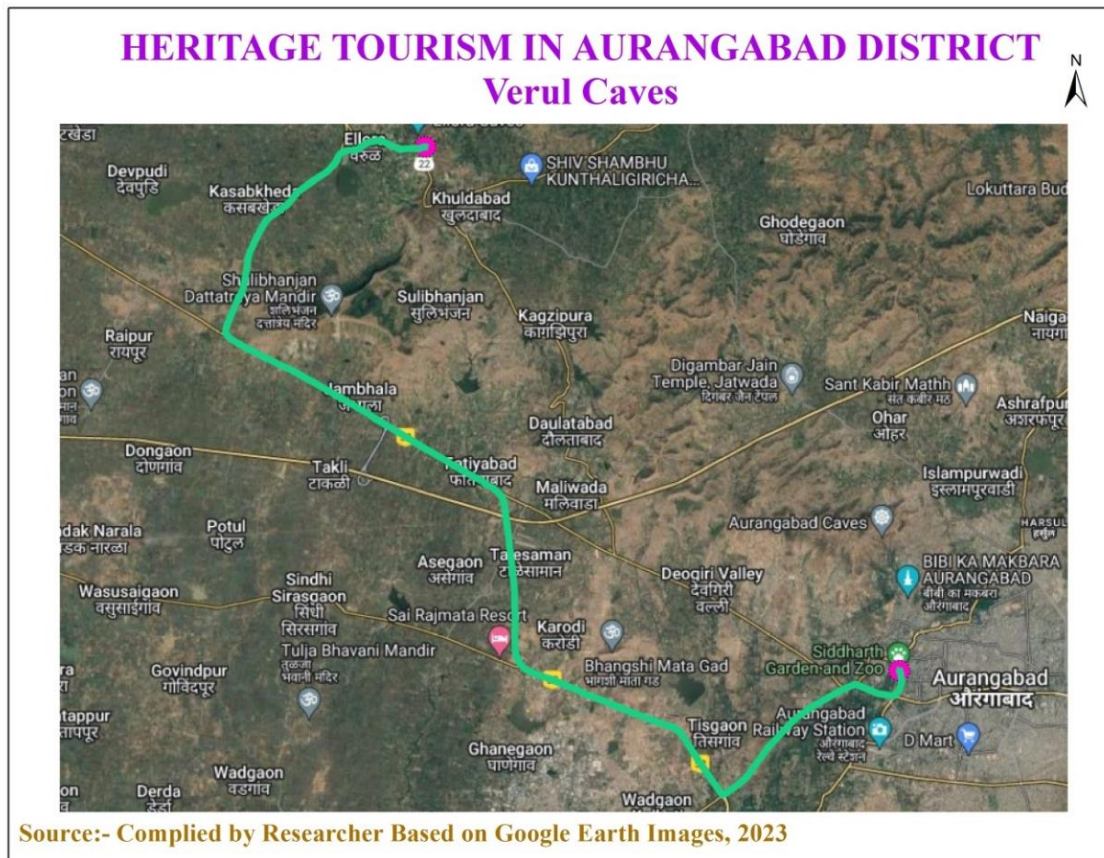
Tourism: Today, Ajanta is one of the most famous heritage tourism sites in India. Recognized as a **UNESCO World Heritage Site in 1983**, the caves attract visitors from across the world. In **2022–23**, Ajanta recorded more than **4 lakh domestic tourists** and **over 10,000 foreign visitors**. During peak tourist seasons (October–January), the daily footfall can reach **4,000–5,000 people**, while in off-season months it averages around **1,000 visitors per day**. Tourists are drawn not only by the historical and cultural value of the murals but also by the natural beauty of the valley. Tourism here supports local economies, including transport, handicrafts, and hospitality industries. However, it also brings challenges, as high visitor numbers and humidity from human breath contribute to the deterioration of fragile paintings, making conservation a critical aspect of tourism management at Ajanta.

Problems at Ajanta Caves

1. **Deterioration of Murals** – The Ajanta paintings are extremely fragile. Rising humidity, carbon dioxide, and body heat from large tourist crowds accelerate the fading of pigments and cause peeling of plaster layers. In some caves, colors have already lost their brightness.
2. **Overcrowding and Tourism Pressure** – Ajanta receives thousands of visitors daily in peak seasons. Narrow cave interiors create congestion, and flash photography, despite restrictions, further harms murals.
3. **Environmental Factors** – The caves are located in a forested valley that is prone to heavy monsoon rains. Water seepage from the basalt rock during rains leads to staining and fungal growth on mural surfaces.
4. **Inadequate Infrastructure** – Tourist amenities such as visitor regulation, ventilation, and climate control systems are insufficient compared to international heritage standards. This weakens the ability to manage crowds effectively.
5. **Neglect of Buffer Zone** – Deforestation, road construction, and nearby urban development disturb the ecological balance of the Waghora Valley, which once provided the serenity essential for the site.

ELLORA CAVES

Geographical Setting: The Ellora Caves are located about 30 km northwest of Aurangabad, along the ancient trade route connecting the western ports with the Deccan plateau cities of Paithan and Ter. The caves are carved into the **basalt cliffs of the Deccan Trap**, which extend for about 2 km in a semi-circular escarpment. Streams like the **Elaganga** flow through the site, creating seasonal waterfalls such as *Sita-ki-Nahani* near Cave 29, which adds to the dramatic landscape. Unlike Ajanta, which is isolated, Ellora's strategic location along a major trade corridor made it accessible to pilgrims, traders, and royal patrons. This accessibility encouraged the development of a vast and diverse cave complex that reflected the religious plurality of the region. The geology of horizontally layered lava flows, with natural joints and fractures, facilitated large-scale excavations, including massive monolithic temples.



Historical Context:- Ellora flourished from the **6th to 12th centuries CE** and is remarkable for its religious diversity. The **Buddhist caves (1-12)**, excavated in the 6th–7th centuries, consist of monasteries (viharas) and chaityas, the most notable being **Cave 10 (Visvakarma or Carpenter’s Cave)** with its seated Buddha and vaulted roof. The **Hindu caves (13–29)** form the most impressive group, particularly during the **Rashtrakuta dynasty (8th–9th centuries CE)**. The most famous of these is the **Kailasa Temple (Cave 16)**, commissioned by King Krishna I. Carved entirely from a single rock from the top downward, it represents Mount Kailasa, the mythical abode of Lord Shiva. Its scale, architectural complexity, and sculptural detailing make it one of the greatest achievements of world architecture. The **Jaina caves (30–34)**, dating from the 9th–12th centuries, are fewer in number but highly refined, reflecting the ascetic traditions of Jainism with intricately carved pillars, Tirthankara images, and decorative motifs.

Cultural Significance: Ellora is unparalleled in its demonstration of **religious harmony and tolerance**. It is one of the few places in the world where monuments of three major religions—**Buddhism, Hinduism, and Jainism**—exist side by side. The Buddhist caves emphasize meditation and devotion; the Hindu caves, especially Kailasa, glorify mythological themes, divine power, and royal patronage; and the Jaina caves highlight spiritual discipline and asceticism. Collectively, they represent the religious, cultural, and artistic dynamism of the Deccan between the 6th and 12th centuries. While Ajanta is known for painting, Ellora is a celebration of

sculpture and monolithic architecture, showcasing the engineering brilliance and artistic imagination of ancient India.

Tourism: Ellora is one of the most visited monuments under the **Archaeological Survey of India (ASI)**. Like Ajanta, it was declared a **UNESCO World Heritage Site in 1983**, but its accessibility and scale attract even larger crowds. In **2022–23**, Ellora received **over 14.3 lakh domestic visitors and more than 12,000 foreign tourists**, making it one of the top heritage tourism sites in India. Tourists are especially drawn to the **Kailasa Temple**, but the diversity of Buddhist, Hindu, and Jain caves allows visitors to experience the religious pluralism of medieval India in a single location. The site is particularly popular during the monsoon season, when waterfalls and lush greenery enhance its scenic beauty. Tourism here significantly contributes to local livelihoods, but it also requires careful management to protect the caves from erosion, vibration, and environmental stress caused by high visitor numbers.

Problems at Ellora Caves

1. **Weathering of Rock** – Ellora’s massive monolithic structures, especially the Kailasa Temple, are vulnerable to natural weathering due to rain, wind, and temperature fluctuations, which cause cracks and erosion in the basalt rock.
2. **Tourism Pressure** – With more than 14 lakh domestic visitors annually, Ellora faces overcrowding, vibration damage, and littering. The Kailasa Temple, in particular, bears the brunt of tourist pressure.
3. **Pollution and Vibration** – Proximity to highways and increased vehicular traffic around Ellora contribute to air pollution and vibrations, which may weaken rock structures over time.
4. **Water Seepage** – Seasonal waterfalls and streams enhance the site’s beauty but also cause water seepage in several caves, leading to moss and algae growth on sculptures.
5. **Conservation Management Gaps** – Although the ASI maintains the site, conservation measures are reactive rather than preventive. Inscriptions, carvings, and sculptures in less-visited caves are often neglected.

COMPARATIVE ROLE OF GEOGRAPHY IN SHAPING DEVELOPMENT

1) Ajanta Caves

Secluded Location

The Ajanta caves are carved into a horseshoe-shaped basalt cliff about 76 meters high, overlooking the Waghora River valley, around 107 km north of Aurangabad. This rugged topography ensured that the site remained hidden and difficult to access for centuries, which is why it was rediscovered only in 1819 by a British officer. The secluded geography allowed Ajanta

to develop as a quiet, introspective religious centre away from urban influences.

Isolation and Retreat

The isolation of Ajanta made it an ideal monastic retreat for Buddhist monks, especially during the rainy season when outdoor travel and activities were difficult. The caves provided shelter, while the natural silence of the valley created an atmosphere conducive to meditation and religious study. This geographical setting encouraged monks to devote their time to spiritual practice and intellectual discourse, shaping Ajanta into a hub of spiritual reflection and artistic creativity.

Natural Resources

The Waghora River, flowing through the valley, provided a constant water source essential for sustaining life and rituals. The surrounding semi-arid environment, supported by monsoon rains, allowed limited cultivation and ensured survival. The basalt rock was fine-grained, making it suitable for delicate carvings and murals. These natural advantages shaped Ajanta into a site where religion and art could flourish despite geographical remoteness.

Impact on Development

Due to its geography, Ajanta developed primarily as a centre for paintings and narrative art rather than grand temples. The walls and ceilings of the caves became canvases for murals depicting Jataka tales, the life of the Buddha, and glimpses of contemporary society. The natural quietness of the site encouraged artistic refinement rather than monumental construction. Thus, Ajanta's geography shaped it into a spiritual-artistic retreat rather than a large-scale religious complex.

2) Ellora Caves

Strategic Location

Ellora is situated about 30 km northwest of Aurangabad along an ancient trade route that connected the western coastal ports of Sopara and Kalyan with inland cities such as Paithan and Ter. This strategic position made Ellora highly accessible to traders, pilgrims, and rulers. Unlike Ajanta's hidden valley, Ellora was a cultural crossroads, which helped it become a centre of continuous activity from the 6th to the 12th century CE.

Accessibility and Interaction

The accessibility of Ellora meant it was never "lost to history" like Ajanta. Travelers, rulers, and pilgrims frequently visited, and dynasties like the Kalachuris, Chalukyas, Rashtrakutas, and Yadavas extended patronage. This accessibility encouraged religious pluralism, with Buddhism, Hinduism, and Jainism coexisting within the same site. The caves became not only religious centres but also hubs of political patronage, social interaction, and cultural exchange.

Geological Advantage

Ellora's caves are carved from the Deccan Trap basalt, formed by massive volcanic eruptions

around 65 million years ago. The basalt here is layered into horizontal flows with vertical joints, which the builders skillfully used for excavation. The rock was soft during cutting but hardened on exposure, allowing the construction of vast monolithic structures. This geological setting made possible the Kailasa Temple (Cave 16), the largest rock-cut monolithic structure in the world, carved top-down from a single rock. Such a feat would not have been possible in Ajanta's narrow and secluded cliff.

Impact on Development

Geography shaped Ellora into a religious and cultural melting pot. Its position on a trade route brought economic resources, artisans, and pilgrims, enabling the construction of nearly 100 caves, of which 34 are major religious monuments. Unlike Ajanta's inward-looking murals, Ellora expressed outward monumental ambition, with vast temples, detailed sculptures, and architectural grandeur. The caves reflect the power of dynastic patronage and the diversity of faiths, shaped directly by the site's geographical accessibility and geological potential.

KEY FINDINGS

The study shows that the geographical conditions of Ajanta and Verula strongly shaped their personalities: Ajanta's remote location in the Vaghora Valley made it an ideal monastic retreat for meditation and frescoes, while Verula's location on ancient trade routes encouraged accessibility, cultural exchange, and large-scale architectural activity.

Historically, Ajanta flourished between the 2nd century BCE and the 6th century CE under the patronage of the Satavahanas and Vakatakas, which produced masterpieces of frescoes. Verula, in contrast, flourished between the 6th and 12th centuries CE, with the Rashtrakutas initiating the world's largest monolith excavation, the Kailash Temple, which was also supported by the Kalachuris, Chalukyas, and Yadavas.

In terms of cultural significance, Ajanta reflects spiritual introspection and Buddhist teachings through colorful narratives such as Jataka stories and episodes from the life of Buddha, while Verul is a symbol of religious pluralism, featuring Buddhist monasteries, Hindu temples, and Jain shrines side by side as symbols of tolerance and dynastic patronage.

In terms of tourism, both sites are UNESCO World Heritage Sites (1983) and attract millions of tourists every year. In 2022-23, Ajanta recorded over 4 lakh domestic and 10,000 foreign tourists, while Verul welcomed over 1.4 lakh domestic and 12,000 foreign tourists, making them important heritage tourism hubs that sustain the local economy and enhance cultural identity.

However, the study also found serious challenges and problems: humidity, tourist pressure and water seepage are causing the Ajanta murals to deteriorate, while Verul is facing natural weather, pollution, vibrations from nearby traffic and overcrowding at sites like the

Kailash temple. These issues highlight the urgent need for sustainable management practices.

CONCLUSION

The comparative study of Ajanta and Ellora Caves shows how geography, history, and culture shaped two distinct yet complementary heritage sites. Ajanta (2nd BCE–6th CE), carved in the secluded Waghora Valley, became a Buddhist retreat renowned for its murals, while Ellora (6th–12th CE), located on a major trade route, developed into a monumental centre of religious pluralism with Buddhist, Hindu, and Jain caves. Both declared UNESCO World Heritage Sites in 1983, they now attract lakhs of visitors annually—Ajanta receiving about **4 lakh** and Ellora over **14 lakh** domestic tourists in 2022–23. Yet, this success brings problems: Ajanta's fragile murals suffer from humidity and overcrowding, while Ellora faces weathering, vibration, and water seepage. The study concludes that Ajanta reflects spiritual introspection through art, whereas Ellora symbolizes religious coexistence and architectural grandeur. Their preservation requires sustainable tourism management so that these living cultural landscapes continue to inspire future generations.

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