

Prospect and Challenges for World Heritage Site of Tamilnadu (Study of Historical and Natural Resources of Mahabalipuram)

Marshal Akash
UITHM, *Chandigarh university,*
Mohali, punjab

Abstract

Tourism has a significant impact on a community's social development. Developing a tourism destination not only attracts more visitors, but it also has a number of other benefits. Several issues and opportunities arise as a result of tourism development in locations. Developing a destination attracts more visitors. Since the number of tourists has increased, food and lodging for visitors must be provided. The lodge and hotels are open to the public for the purpose of generating revenue. Furthermore, transportation facilities for that location are improving, paving the path for it to become a great vacation spot. Once it is designated as a tourist destination, the government makes measures to make it environmentally friendly, and tourist numbers swiftly expand. This research paper focuses on the major tourist location Mahabalipuram also known as Mamallapuram, which is situated on the east coast in Chennai, Tamil Nadu, right near to the Bay of Bengal. During the Pallava dynasty in the 7th and 10th centuries It was a well-known sea port, and it also boasts various arts, buildings, rock cut caverns, and other attractions. According to the researcher, Mahabalipuram has had rapid social growth since the tourism and crafts industries provide a variety of job options for the locals. The number of hotels and beach resorts also increased transportation options and tourist rates. The researcher is conducting a qualitative analysis by conducting in-depth interviews with local residents and workers utilising questionnaires to learn more about the role of tourism on social development.

Introduction

Mahabalipuram is located on the Bay of Bengal's coramandel coast in Kancheepuram which is a district in Tamilnadu. Pallava rulers who ruled south of Madras founded it as a town in the 7th century. It became a well-known port town for commerce with several south eastern countries, including Kambuja (modern day Cambodia) and Shrivijaya (modern day Malaysian islands of Sumatra and Java), as well as the Champa Empire (known as Annam). The Ganges the rock cut decorated caves like the Govardhanadhari, Mahishasuramardini, and the Jala-Sayana Perumal Temple are all attributed to King Mamalla (meaning the great warrior), also known as Narasimhavarman I (c. 630 – 670) who ruled during the 7th century at the head of the Pallava Dynasty. During the reign of another Pallava monarch, Rajasimha, structural architecture became fashionable in the eighth century. His contribution was enormous, as he erected 'THE SHORE TEMPLE,' one of the greatest temple. It is widely regarded as the world's only Shore temple. The Rajasimhesvara is a west-facing construction with a modest tritala vimana; the Kshatriyasimhesvara is an east-facing structure with the largest vimana; and the

Nripatisimha Pallava Vishnugriha is an east-facing structure with an oblong flat-roofed mandapa and enshrines the reclining Vishnu..The remarkable monuments at Mahabalipuram depict a mix of Hindu holy pantheon religion, culture, and stories.

Literature review

1. A Case Study of Mahabalipuram Tamilnadu Role of Tourism in Social Development According to Dr.D. Antony ashok kumar in their research paper they have mentioned that the main tourist attraction Mahabalipuram, commonly known as Mahabalipuram, is a town in Chennai, Tamil Nadu close to the Bay of Bengal located on the East coast. It was a well-known sea port during the Pallava dynasty in the 7th and 10th centuries, and it also boasts various arts, buildings, rock cut caverns, and other attractions. According to the researcher, Mahabalipuram has had rapid social growth since the tourism and crafts industries provide a variety of job options for the locals. The opening of a number of beach resorts and hotels also increased transportation options and tourist rates. The researcher is conducting a qualitative analysis by conducting in-depth interviews with local residents and workers utilising questionnaires to learn more about the role of tourism on social development.

2. Underwater investigations of Mahabalipuram

According to K.H VoraA. S. Gaur,Sundaresh,,Sila Tripathi and in their research paper they have mentioned that The famed Pallava art and architecture centre of Mahabalipuram located on the East coast of Tamil Nadu. Six of seven temples that were stood here were submerged, according to local legends and international accounts. Most of the structural are still there including Scattered dressed stone blocks, Fallen walls, and some stairs resulting in a platform,as well as other structural elements, have been discovered during recent underwater archaeological studies in the region. Strong underwater currents and swells severely damaged and scattered the buildings.Due to extensive biological development, any engravings on the stone blocks could not be seen..Based on their alignment and appearance, they are assumed to be man-made.

3. Salt Weathering of 7th Century CE Granite Monument of Shore Temple,

According to S.Vinod kumar and M.R.Sing in their research paper they have mentioned that In marine areas, salt-induced destruction of architectural heritage is dramatically accelerated. Using a variety of analytical methodologies, this research explores the Shore Temple's deteriorating mechanism. In order to understand the deterioration mechanism, Degraded and pure stone samples were examined using X-ray fluorescence spectroscopy (XRF), thin section examinations, and scanning electron microscopy (SEM).The meteorological and microclimatic conditions of Shore Temple in the tropical Indian environment were studied because they were a major factor in the stone matrix's deterioration.

4. A Saga of glory to tribulations according to K.H vora and Sundaresh in their research paper they have mentioned that Mahabalipuram, a UNESCO World Heritage Site and the epicentre

of Pallava art and architecture in South India since the sixth century, was also a seaport from the beginning of the Christian period. Pallava kings maintained strong ties with Ceylon, China, and Southeast Asian kingdoms, according to epigraphical records. Mahabalipuram had economic interactions with the Roman world during the Christian era, according to a few Theodosius (4th century AD) Roman coins discovered in the area. It was only after the Pallavas began building structural and monolithic temple architecture in this region that it gained prominence. Mahabalipuram used to be dotted with "Seven pagodas," as the old seafarers called them.

5.A STUDY ON DEVELOPMENT OF SUSTAINABLE TOURISM THROUGH ENTREPRENEURSHIP WITH SPECIAL REFERENCE TO MAHABALIPURAM according to Dr. P. Sankar and Sasirekha. In their research paper they have mentioned that Tourism is a multifaceted activity including both physical (accommodation, transportation, and tourist attractions) and psychological (particular attitudes, aspirations, and human emotions) components. There are several definitions in the literature that demonstrate the complexity and importance of the tourism phenomena. In general, entrepreneurship in tourism refers to businesses that engage in a variety of macro- and micro-economic activities. In entrepreneurship, the concept of opportunity is a major theme. The primary goal of this article is to examine the relationship between the tourism industry and a country's entrepreneurial development. This report also emphasises the need of identifying the causes and resources required to start a tourism business. Individual rationality and entrepreneurial creativity are the most important problems in today's world, whether in developed and developing countries.

6.A relic coral reef and evidence of Pre-Holocene water level stand.

according to G. Gaitan Vaz in their research paper they have mentioned that A radiocarbon (^{14}C) age of 14510 \pm 190 years BP was discovered on At 115 metres depth, a relict coral reef on the outer continental shelf off Mahabalipuram. A terrace at 130 m depth may reflect the lowest sea level point during the late Pleistocene. Between 18,000 and 14,500 years ago, the sea level increased at a pace of 5.71 m/kyr during the early stages of post-glacial transgression.

7.Time and causes of submergence of ancient temple structures off Mahabalipuram, East Coast of India according to A S Gaur, R Agnihotri, P Maurya, A Sundaresha, S Jayakumara & B R Thorata in their research paper they have mentioned that a portion of Mahabalipuram's ancient town was submerged just off the coastline temple, and this account was documented by various British tourists during the 18th and 19th centuries. During an underwater study of the Mahabalipuram area in 2017, three sites, as well as a large number of scattered dressed stones were identified in the intertidal zone. The radiocarbon (^{14}C) dating of calcareous substance formed over the stone formations following their submergence in seawater was used to infer submergence time-periods of these monuments.

8.The Shore Temple – An Aesthetic Architectural Ecstasy according to Dr. S. A.V. Elanchezian in his research paper he have mentioned that There were differences in various characteristics of each Pallava temple. Even from Kram's early apsidal building to Kanchipuram's tiniest temple of Piravathanesvara, there is a clear difference. Pallava structure

temples were built in a variety of locales, including hills, lands, and the seashore. Apart from the traditional land temples, hill temples such as Olakanesvarar Temple in Mamallapuram and Talagirisvarar Temple in Panamalai near Senji a fort town are well-known. No one knows when temples on the hills in India were first appeared, although according to one source, the temple built by the Early Chalukyas on a hill in Badami predates the Pallava hill temples.

9. A study on tourist satisfaction and their preference to act as responsible tourists according to Sobhana Devi V in her research paper she mentioned that Tourism in cultural heritage is rapidly gaining popularity as a specialist segment for the Indian tourism industry. The number of International and domestic tourists grows rapidly, as well as the expanding infrastructure facilities, are driving this industry. Mahabalipuram, a notable cultural heritage site in Tamil Nadu that has been designated as UNESCO World Cultural Heritage Site, has gotten all of the attention and praise it deserves. In and around Mahabalipuram, there are various beach resorts and a variety of tourist places, as well as natural beautiful locations, aids travellers in rejuvenating their bodies and minds.

Main Body

WORLD HERITAGE SITE - MONUMENTS AT MAHABALIPURAM

The majority of the monuments, including the rock-cut rathas, sculptured scenes on open rocks such as Arjuna's penance, the Govardhanadhari and Ahishasuramardini caves, and the JalaSayana Perusal temple (the sleeping Mahavishnu or Chakrin at the back part of the Shore temple complex), are attributed to Narasimhavarman I Mamalla's reign..

- Ratha temples in the shape of procession chariots, massive structures carved out of diorite shards that erupt from the sand. The most famous of the five rathas in the south come from the era of Narasimhavarman Mamalla (630-68), the great Pallavas king (the city is also known as Mahabalipuram in Cholas scriptures).
- Mandapas, or bas-relief rock sanctuaries (the mandapa of Varaha, which depicts the activities of this Vishnu avatar the mandapa of the Five Pandavas, particularly the mandapa of Krishna and the mandapa of Mahishasuramardini).
- The Descent of the Ganges is depicted in open-air rock reliefs, which is a popular episode in Siva's iconography. Baghirata, the wise king Siva, after pleading with him, gave the order. The Ganges will descend to Earth and provide nourishment to the people. The sculptors took advantage of a natural fracture splitting the cliff in order to convey this cosmic event with a swarming crowd of gods, goddesses, and other supernatural beings Kinnara, Gandharya, Apsara, and other mythological entities Wild and domesticated Gana, Naga, and Nagini Witnesses are animals.

METHODOLOGY:

The most important data sources of this research are informal talks, active interviews, on-site observation, questionnaires. The methodology which is used here is exploratory in nature, and it makes use of both primary and secondary data. In order to acquire information and gain a better understanding of social evolution, in-depth interviews were undertaken. Qualitative interviews, according to Bell and Bryman (2007), are informative, inductive, and explanatory. A talk between two or more people with the objective of learning more about them is referred to as an interview. (Kahn and Cannell, 1957). Individuals readily voiced their ideas and sentiments throughout the conversation. Researchers used tourism websites, yearly reports, online publications, journals, manuals, observations, and a thorough review of relevant literature to analyse pertinent secondary data..

A BRIEF REVIEW OF THE LITERATURE ON TOURISM AND ITS IMPACTS

Tourism draws people from all walks of life together provides a direct line of communication between them and so serves as a conduit strong means of global culture spread It satisfies a chance for amicable and a calm discussion that as a result of this, there is a better understanding amongst nations It has the potential to construct. Builds Bridges and fosters international camaraderie, resulting in The United Nations' last goal is the establishment of peace Nations. Tourism, on the other hand, is an aspect of acculturation that affects attitudes, modifies conventional notions, transforms mentalities, and disseminates new ideas about labour, money, and human relationships. It has the potential to disconnect people's ties to religion, faith, and beauty. Teenagers from local often model their behaviour after that of visitors, resulting in social and cultural tensions.

In Host community the impact on tourism has been the focus of more of The most recent research on the growth of global tourism. As countries (and regions within countries) have turned to tourism as a means of increasing national income, employment, and living standards, as well as ending reliance on a limited range of primary products, pressure from tourism and its associated development has begun to affect the local population (Sevign, Nicos, & Jonathan, 1996).

MAHABALIPURAM'S TOURISM AND SOCIAL DEVELOPMENT

Mahabalipuram's tourism has grown significantly over the years, contributing to an increase in tourist arrivals. Tourists were once few in number and treated as guests, but hospitality has now become marketed. The expansion of tourism in the region has enthralled and enthralled the Mahabalipuram host community. Strangers are welcomed with open arms, there is a mutual sense of contentment. Jobs are available, money floods in between tourists. This is akin to the degree euphoria defined by Doxey (1976) in terms of the host community's attitude.

Underwater investigations in Mamallapuram

The fact that there is collapsed and scattered long walls and constructions has been discovered during an underwater exploration off the coast of Mahabalipuram. A large number of rectangular and square dressed stone blocks are used in construction have been discovered in

a number of locations, one of which may be a quarry. Many of the structures discovered throughout the exploration were constructed by humans. The length of some of these structures may be observed for hundreds of metres along the beach., running parallel to it. They can be found at depths of 5 to 10 metres. At all of the locations, a few continuous wall remnants have been observed. Because of the enormous number of dressed and regular blocks, they appear to be part of a larger construction complex. Steps leading to platforms can also be found in numerous locations. However, because the structures have been covered in thick biological growth because it was severely damaged, it is difficult to layout plan for all of the sites. Only site 1 allowed for a complete layout, which provides Important information about the structures types. The structure design at site I suggests that this structure may be part of a larger complex, as evidenced by the massive stone blocks and multiple fallen walls found in situ. The existence of many structures above natural even rock indicates that construction took place on an elevated platform with multiple walls. They have spotted An opening between two walls with steps, which could possibly be the complex's southern entrance. The natural rock boulders on the southwest side are comparable in shape and size to those found on the Mahabalipuram hills. Similarly, the constructions discovered underwater have the same construction types as those found on land in the surrounding locations. However, due to massive marine growth and their damaged state, it was not feasible to check the undersea structure's binding material. Many wall portions were examined in various locations, including a quarry and a massive rock. The dressed stone blocks needed for the construction were most likely obtained from a local quarry. In reality, granite was utilised to construct the majority of religious and ceremonial structures, including the current Shore Temple at Mahabalipuram. During the Pallava dynasty, the stone was widely employed in the construction of temples.

Archaeology of the Mahabalipuram:

According to a number of sources, Mamallapuram was a thriving bustling port from the start of the Christian era and remained so until the Pallava period, i.e., the 8th century AD. Ramaswami (1989) claims that before the pallava period mamallapuram was centre of pilgrimage. Pallava kings ruled Mahabalipuram from Kanchipuram, the Pallava dynasty's capital, from the third century until the ninth century AD.

Setting Geological:

Mahabalipuram's seashore is oriented NNE-SSW, which is typical of the area. The Palar River meets the sea near Sadras on the southern side of Mahabalipuram. The Buckingham canal back waters are also significant, with outlets at Covelong on the north and Kalpakkam on the south, roughly 1.5 km west of Mahabalipuram. Vasavasamudram, a wealthy port town in the early Christian era, is situated on a length of land between the north Covelong and the south vayalur, with a large hinterland area.

The Mamallapuram's shelf is about 40 kilometres long, The shelf break occurring at a depth of 135 metres. The outer shelf is covered in carbonate-dominated strata., The rest covered with sandy silt and silty clay Two fold morphological divisions exist on Mahabalipuram's continental shelf, and a terrace which divides at 120 m mohapatra et al 2002.

The Inner shelf is largely made up of sedimentary sands (Selvaraj and Ram Mohan, 2003) in a area. The mamallapuram seafloor which is around is uneven, with rocky outcrops of granitic boulders and occasional sand patches, and it progressively slopes down towards the east. There is a shoal known as Tripalur reef, which is made up of submerged rocks. A ridge that spans from south to north and is more than 2 km long and 0.5 km wide may be observed on the southeastern side of the temple in roughly 8 - 10 m of water depth.. When the lowest tide breaks on some ridges, the tops of the ridges become visible. The east coast's shorelines and sea level variations have been extensively examined. According to Merh (1987), During the mid-late Holocene epoch, sea levels fluctuated between 2 and 6 metres along both coasts of India. Sea level variability on the East Coast has been reported by Banerjee (2001) over the last 5000 years.

A PREliminary three-day underwater exploration programme in April 2002 by the Scientific Exploration Society in the United Kingdom and the Marine Archaeology Centre of the National Institute of Oceanography in Goa yielded clues about the possibility of man-made structures off Mahabalipuram, prompting a more thorough investigation in 2003. (Technical report 2002). Because a cooperative programme could not be realised due to unforeseen circumstances, the current work was carried out solely by the Marine Archaeology Centre.

The Shore temple

The movements and activities of the monarchs of ancient South India were all distinctive. For the sake of ethnic highness, during sangam period the Pandyas gave a platform for language to produce immense literature. The ancient and later Cholas were of the same type, serving as role models for a sanitary government with a wealth of social elevation that provides art a dynamic dimension. The Cheras, who remained among the survivors, have also served as patrons of high-level language, art, and culture in Southern India.

The Pallavas

A new, exciting kingdom has emerged in the absence of these three. The Greater Pallavas shaped Tamil Nadu's history. They were in charge 700 years and counting. Their country was comprised of Toaimaalam and Cholas land, including a few areas of Toaimaalam and Cholas land Andhra.

The Pallavas' nativity has been interpreted in two ways: as a foreigner or as a tribe from their own area. They did, however, dominate history with continuous full-fledged movement. Prior to the screen, their principal operations were clearly from the 3rd to 9th centuries A.D., with complete independence. Between the 9th and 13th centuries A.D., secondary operations took place behind the screen. During this week, a forceful, aggressive exploration by Kadavarkon Kopperunjinga, which assured their existence, should be emphasised.

Thoaimaalam's literacy is praised by Avvai a Sagam poetess. Her phrase reveals the rulers' contribution in providing education to all. As a result, the rulers were in charge of the social welfare initiative. In fact, when people are in a serene state of mind, socio welfare may be a possibility. The maintenance of a healthy mould culture allows people to have a serene mind.

Regularized disciplines provide for a healthy mould culture. It is possible to experience divinity via discipline. The possibility of experiencing divinity, which it possesses, keeps people in love. Simply put, love is the molecule that makes Humanism possible. It is, nevertheless, quite tough to maintain and remain a constant target.

Ecstasy

Love for a thing or a person could be a brief, time-limited affair characterised by an affection that provides only a fleeting pleasure. The love for everything means experiencing the plurality in a singular as well as the singularity in a plural. This is an abstraction of mystic joy known as Prinbam in Tamil, Paramnadam in Sanskrit, and Bliss or Ecstasy in English.

A few persons who have given up their worldly aspirations may experience the happiness described above. The surviving members of society's mass have all become entangled in their aspirations. The desire should be scrutinised with caution. If it didn't take viwarpa as a, greed, one might have a better chance of winning than losing. As a result, the country's rulers supply the space with structural forms in order to enjoy eternal bliss and avoid the loss of love.

Conclusion

Mahabalipuram was described in detail by European explorers in the 18th and 19th centuries. Underwater archaeological explorations in a depth of 4–7 metres revealed the presence of a huge number of stone buildings in a vast area close to the shoreline temple. Among the structural ruins are running walls and scattered stone fragments. These appear to be the foundations of an ancient temple. Macro-morphological analyses of the underwater and shore temple constructions reveal that they are remarkably similar, therefore both were given a same dating bracket, indicating that they are from the Pallava dynasty period (7th–8th century CE). These structures may have been submerged as a result of a large coastal invasion of seawaters induced by natural extreme events like storm surges and cyclone-driven high waves. Though a slight rise in sea level could have contributed to the submergence of these structures, this is a less plausible scenario. Because cyclonic storm surges and extreme monsoonal events are expected to become more common as a result of the current global warming scenario, a better understanding of the likely causes of ancient structures submerging along the shoreline can assist in determining the extent of the damage caused by these natural hazards. Tropical storms are unpredictable and seasonal in nature (due to monsoonal variability). The severity of cyclone storms may get more severe as the atmosphere continues to warm (due to energised atmospheric circulations). Recognizing and preserving ancient and prehistoric pieces of evidence of coastal damage patterns (as done in this study) can help identify vulnerable zones and better prepare for future natural disasters.

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