

# ANGKOR WAT; THE EPIC OF ARCHITECTURE

## Abstract

Angkor wat is a temple complex in Cambodia which is the largest religious monument in the world till date. The site of Angkor wat is measured 162.6 hectares. This Angkor wat temple is dedicated to Lord Vishnu which is built by Khmer Empire. It is one of UNESCO World Heritage sites. It was built in 12<sup>th</sup> Centruary by Suryavarman II. Angkor wat is also called as world's oldest man- made Island. It is one of the most preserved temples in Angkor group of temples, which includes around 100. It is the world's largent Hindu Temple. The original name of Angkor wat is Parama Vishnu Lokha, which means sacred world of Lord Vishnu.

## Keywords:

- **preserve:** maintain something in its original or existing stage
- **intricate:** very complicated or detailed
- **Moat:** a deep, wide ditch surrounding a castle, fort or town typically filled with water and intended as a defense against attack
- **Lathe Technology:** is a technology of rotating a work piece around the axis for various operations such as cutting, sanding , knurling, drilling, deforming facing and turning
- **Embedded:** fixed firmly and deeply in a surrounding mass

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## **I. INTRODUCTION**

Angkor Wat temple located in siem Reap, Cambodia which is considered to be world's largest hindu temple. This temple is well known by many other names also. It is the ever largest religious monument in the world. Angkor Wat temple had been built by SuryavarmanII of Khmer Empire in 12<sup>th</sup> century, if we say it so precisely 1120 AD. For me construction of Angkor wat they used 30,00,000 workers for 40 years.

The Angkor wat temple to was built as a depiction of Hindu Cosmology. Historians believes that there might be 12 gopuras or tall Structures of temple towees which denotes 12 zodiac Signs. But now there were only 5 temple towers, the other temple towers got damaged by natural causes and by passage of time.

## **II. ARCHITECTURE**

Angkor wat is the prime example of classical style of khmer Architure. In 12<sup>th</sup> Centaury the architects are so confident and highly skilled enough to built such a large structure in sandstone. The Architecture Style that is used in Angkor Wat is so unique.

The Angkor Wat temple has been made the Architects of that time wisely. They intricate carvings on walls are carved in detail. The Architecture of Angkor Wat throws light on development in the field of Science and Technology at that time.

The Angkor Wat is situated in centre of a human made Island; There is a rectangular moat of 5 km perimeter with 13ft deep. It cover around 650 foot. This is known to be world's oldest manmade island. It is connected with main land with a narrow path way. They built such a narrow path pan way such that there might be having huge amount of gold and other germs and jewels inside the temple at once.

As the moat is man made their might be having so much sand mat dug out to construct the moat. The architects used this wisely, they use this sand to make the core of the temple. Each temple building is built by three layers. The core is made by leveling the sand to perfect square shape and it is covered by laterite blocks, it would increase me strength and last long. After that only thee carved sand stone blocks are used.

The temple architecture of Angkor Wat is so unique, and it desn't resemble any features of temples of Cambodia or even world. Angkor Wat have unique and iconic central tower; which resemble the drill bits. It have height of 213 feet tall. Angkor Wat have five iconic drill shaped temple towers, 12 stair cases which are perfectly alligned to main chamber. The whole temple is built in such a precision in every inch.

## **III. KNOWLEDGE ABOUT SCIENCE & TECHNOLOGY**

We have studied in our text books that Ancient people have been used primitive technology such as chiesels and hammers for using intricate minute carvings. Also they are technologically less developed. Here we are gonna discuss some evidences that points towards the scientific and technical knowledge in other field.

There is a close relationship between Architecture of temple and knowledge about Astronomy. There is a hole on top of main chambers of Angkor Wat where the main linga was placed. Twice in every year sun comes overhead to this chamber, exactly straight to this hole. During this time a spectacular event happens which is, through this hole the sunlight directly falls on the pedestal of linga. This shows their knowledge about astronomy and they have studied position of sun accurately. There was a belief about this as, the Khmer kings were called as Devarajas. They believe that through this event happens twice a year the king can reach heaven.

Another example for knowledge about Astronomy is the carving on pillar of Angkor Wat which depicts such as surya bhagavan and nine planets depicting a planet of our solar system including Pluto in a praying position in front of surya. By this we can reach to a conclusion that they have knowledge about solar system. The fact is as per our knowledge from text books the Pluto was discovered in the year 1930. But such a long ago period itself they might be travelling to space at that time. Pluto & Neptunus can be only seen by high powered telescope.

Angkor Wat has been made by complex ancient technology even if it is believed that was made of primitive tools we have been seen CNC Machines in large Iron and steel. Similar machines all used in making pillars of Angkor Wat. They use lathe technology. They built unique designs from rocks. The most amusing fact is in one of their pillars we can see the front view of Angkor Wat temple in shadows when it is exposed to sunlight.

There is a unique technology used in Angkor Wat temple which helps to know directions as precise as modern day GPS system. In the main chamber of Angkor Wat in the exact centre there is a square pit in which if they place a magnetic compass there it shows the correct direction. From that point there were four ways towards east, west, north & south also to four directions. The compass shows the correct value and temple ceiling stones on floor etc are arranged in such a way that they all come together in 90°. The amazing factor here is 900 years ago they have built such a wonder but now a day's so called well developed architectures can't make such a kind of religious monument can't be built even in this age of developed scientific knowledge.

There is such a similar thing also found in Angkor Wat's library which we found far away from main chamber. It proves that it is not a mere coincidence. These all built in GPS level precision. The point where the four lines on ceiling intersect is same as middle point of the square is same as point where the top of the temple tower is located. This square also shows the centre most point. As the temple premises is large as it is above 400 acres how do they manage to build it in such an artistic and scientific way is a mystery. The thing is of we join the middle point of square dug on floor, the intersecting point of ceiling and top of Drill shaped Gopura it all lie on same line and same direction. Also in four sides there were four entrances and four of them have same distance. Such a construction isn't possible even in this age.

#### **IV. CAUSES FOR DECLINE OF ANGKOR WAT**

We had already see that Angkor wat is a great temple which is full of carvings that shows the Scientific Technical development at time. And had made with such a perfection which was made 900 years still standing as world's largest religious monument till date which is embedded with complex carvings with even minute details. We have already seen the intelligence of architects who work behind this. So now we are gonna look into the reasons for destruction of such as massive and majestic architectural work which represent as a evidence for coming generations.

There are two reasons for destruction of Angkor Wat, Natural and manmade reasons. First we look at the manmade reason. It is considered to be the temple was built in 12<sup>th</sup> century by Suryavarman II but in 13<sup>th</sup> centaury the Khmer dynasty had changed to Buddhism as the successor of Suryavarman II Dharindra varman II was a Buddhist believer. As he was a Buddhist he opposed believing in hindu deities. He had destroyed the majestic work done by his father and he added his own stamps there.

It is evident from the chambers of temple itself. He destroyed me hindu deities statue and placed statue of Buddha there. By that we come to a conclusion that during the regin of Dharaindravarman II the prosperity in the field of architecture started tading. It is evident from the disintegration of blocks of stones of Buddha's statue. It is one only the Buddha statue in Angkor wat. He also made a stupa but it is about part of total height of Angkor wat and it is poorly organized with less architecturing skills.

The another reasons for destruction of Angkor Wat is climatic conditions prevailing in Cambodia. Cambodia is a place were 6 months of a year got continuous rain and another 6 months as drought. Due to this continuous rain pattern the stones must be declined in strength and collapsed. It also can be considered as a possible reasons for destruction of such a monuments in large scale. Of course the man is the greatest destroyer for destruction of some of these monuments but the natural reasons might have increase the pase of destruction to a higher level.

#### **V. CONCLUSION**

We had already seen about the greatness of Angkor Wat temple of Cambodia. But as the time passes it get vulnerable by the action of nature and human beings. But now Cambodian Government had took appropriate measures to conserve their heritage Government had done many things there.

Government had raised funds to conserve angkor wat. Due to passage of time banyan trees and all started growing from the cuts of rocks which inturn destroy the temple in future. So Government had appointed labourers to climb to such a height and desttory the plants and to use some medicines to irradiate the further growth of roots of plants. They are trying hard to built back the old temple the way in which ancestor's had built the temple such a long ago. By replacing the lateritic and sand stone blocks back into its positions. Government also made the picture of tower of Angkor Wat in their National Flag.

We can hope that Cambodian Government would take many more steps to conserve the great work of their Ancestors. So that their future generations also can see and analyse their fore fathers work and understand their great heritage.

## **REFERENCE**

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