

# Shree Jagannath Temple, Puri and Its Conservation Scenario

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The Shree Jagannath Temple, Puri was constructed by the Gangas during 12th century A.D. The antiquity of the temple site goes back to remote past. One group of scholars opines that the site was originally a natural hillock over which a Buddhist establishment had developed since early time. Another group of scholars believe that the present elevated platform of 8 mtr. height was constructed by the Buddhists for erection of a Buddhist Stupa. During 2003-04 the Garuda pillar at the Nata Mandapa was repaired by Archaeological Survey of India. During the course of repair work the author along with Dr. Satya Murty, Superintendent, Archaeological Survey of India were present. It was observed that the pillar in question is a fossilized wood, while the lower portion below is a Chunar of sandstone of which Asokan pillars were built. Hence, there is great possibility that, originally the Shree Jagannatha Temple complex Puri was a Buddhist establishment. Scientific excavation will confirm this in future.

The Indradyumna episode suggests that the present Jagannatha temple was constructed

by several generations of rulers. Chodaganga Deva is credited to have completed the construction of the temple during his reign in 12th century A.D. To protect the temple from saline effect, heavy plastering was done. This attempt may be termed as first scientific endeavour to protect the temple from saline effect.



Subsequently cracks were noticed by Archaeological Survey of India in different portions of the main temple. In order to ascertain the actual cause, it was felt necessary to deplaster the whole lime plaster and accordingly the job was entrusted to an expert committee to study the conservation

problems of this temple.

After deplastering it was noticed that, in the pattern of typical Orissan temple, Shree Jagannath Temple, Puri is also profusely ornamented with sculptural and architectural designs and patterns.

The temple is approached by a flight of twenty-two steps. It measures 63 meter in height. It has Garbhagriha, Jagamohan, Nata mandap and the Bhoga mandap in horizontal

plan and is divided into three parts namely bada, gandi and mastaka in vertical plan. The outer wall is heavily decorated with carved figure of divine and semi divine beings along with other floral and geometrical motifs. To give protection a double compound wall with kapisirsa projections was made. There are four gateways at four cardinal directions with a pyramidal roof decorated with beautiful sculptures. The eastern gate is called Singha Dwar, the western gate is Vyaghra Dwar, the northern gate is Hasti Dwar and the Southern gate is called Aswa Dwar. Outer wall measures 202.70 x 196.30 meter while the inner wall 121.90 x 84.75 meter.

The Temple is built of Khondalite stone without the use of mortar. Iron dowels have been used to keep the stone blocks in position. By oxydisation of these iron dowels, profuse damage has been caused to the structure. Sippage of water and generation of pressures have also contributed to the cracks of the temple.

By 1972, profuse leakage of water was noticed and therefore Govt. of Orissa requested Archaeological Survey of India to take up its conservation work. In 1973, an expert committee for conservation of Jagannath Temple was constituted under the Chairmanship of Dr. M. N. Despande, Director General, Archaeological Survey of India. The expert committee proposed to deplaster the 45 cm. Thick plaster to study in detail the conservation problems. It was decided to re-set the bulging architectural projections, to replace the damaged portions, to refix the the masonry to repair and strengthen the whole temple complex. During the progress of conservation in 1990 an Amalaka stone weighing 6 tons fell down from the Sikhara. On examination, it was

noticed that the different pieces of the Amalaka are tied-up with iron clamps. The process of oxydisation has weakened the structure. However, with application of scientific technique the fallen Amalaka was restored. The investigation further brought to light existence of two-floors inside the Garbhagriha. The ground floor and the first floor were known to have been connected with a stair case. Each floor rests on corbelled arches. To tackle the growing conservation problem of the temple, a fresh technical expert committee was formed in 1992. the following institutions were invited to study the conservation problems and to submit a report. 1.State Engineering Research Centre, Gaziabad, 2.Central Engineering Research Institute, Roorkey, 3.Indian Institute of Technology, Kharagpur and 4.Regional Research Laboratory, Bhubaneswar. This committee recommended that the missing corbels are to be replaced. PMC (Polymer Modified Cement) mortar to be used and corbels are to be fixed with stainless steel and the Garbhagriha should be repaired during annual Ratha Yatra time. It was also decided to provide a secondary line of protection by constructing stainless truss to provide strength to corbelled ceiling system. As a precautionary measure, tubular scaffolding was provided to give temporary support to the ceiling of the upper floors.

To complete this conservation work in a time bound programme, a task force was formed. The outer wall of the Garbhagriha was strengthened by removing the broken stone blocks and the corbels.

In the Second storey, it was noticed that twenty-six corbells had been detached and fallen. For its resetting, a cushion of paddy was made and the broken stones were removed and

the walls were consolidated by grouting the grove of the stone massonary with polymer and cement liquid. The south-east portion of the Sikhara was in bad state of preservation. Therefore, each of the damaged stone blocks were removed and new stone blocks were fixed with epoxy mortar and stainless steel. The huge Anga Sikhara projection on the Rahapaga below the Gajavidala motif was dismantled and re-fixed in original position.

The conservation of the top Amalaka was a big challenge to the archaeologists. First, the deplastering of the Amalaka portion was taken up. When the south-east and the southern sides were deplastered, six lower leaves of the Amalaka were found to have been collapsed. It was decided to repair the missing portions. Perhaps in earlier times, this portion has been repaired by using smaller stone blocks which was giving rise to constant conservation problems. This Amalaka projection is massive and comes out from 90-100 cm. From the neck or beki portion. Each Amalaka leave weighing about 7 tons has to be prepared in two blocks so that it would be easier to handle and lift to a height of about 60 meters. The new Amalaka leaves are finished in the ground and were lifted and placed in proper order. Before that, epoxy mortar was used around the dressed stones and remaining Amalaka facades with key system to fix them systematically. The other damaged Amalaka projections were reinforced with stainless steel rods measuring between 1.5-2

meters long. The whole Amalaka architectural composition was consolidated with epoxy mortar. At a space of 70 cm. From the beki, the new conservation projection was fixed, which provided support to the Amalakas. This stupendous task was completed during 1996. All through, the conservation work was guided by the members of the technical expert committee.

Structural conservation of the temple complex was followed by the chemical treatment. Chemical cleaning work was taken up to remove the hard lime capping that remained amidst the grooves and ornamental projections. Secondly desalination of clean area was made. Thirdly, fungicidal was applied over the treated surface and lastly preservatives like PVAC was applied to give new lease of life and longevity to the temple structure.

During the process of conservation steps were taken to maintain the originality and original look of the temple. Nothing new was added nor the original look disfigured at any point of time. Now, the temple attracts thousands with its original look of grandeur galore.

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*Hon'ble Chief Minister Shri Naveen Patnaik addressing the General Body Meeting of the Orissa Council of Sports at the Third Floor Conference Hall of Secretariat on 23.2.2005. Shri Samir Dey, Minister, Higher Education, Public Grievances and Pension Administration; Shri Prafulla Chandra Ghadai, Minister, Finance and Shri Debasis Nayak, Minister, Information & Public Relations, Sports and Youth Services are also present.*