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THE CULTURE AND ARCHITECTURE OF KAKATIYAS

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ABSTRACT

Kakatiya is an Andhra Dynasty that flourished in the 12th century. The Telangana region experienced a golden age during the reign of the Kakatiya dynasty, which ruled from 1083A.D. to 1323 AD for years of today's Andhra Pradesh and most of Telangana. Rudrama Devi and Prataparudra II were outstanding rulers of the Kakatiya dynasty. The dynasty was weakened by Malik Kafur's offensive in 1309 A.D and disbanded after Mohammed Bin Tughlaq's army defeated Prataparudra in 1323A.D. Firstly, study focusses on temple styles of a Kakatiya Dynasty in Telangana that includes architectural aspects, type of temple styles followed in Telangana. Secondly the study focusses on temple Architecture developments taken place during Kakatiya Dynasty in Telangana. The temples and portals of Kakatiya are excellent examples of the originality of architecture, structure and sculpture. All Kakatiya temples were dedicated to Shiva. By discussing of past era of Kakatiya Temple Architecture will get the Temples scenario took place in Telangana. This paper made an attempt is made to discuss about Temple Architecture styles built around Telangana under the Kakatiya rule. This research paper to be discussed about the culture and Architecture of Kakatiyas.

Keywords: Chalukyas Architecture, Chandrasila, Upapitha Kakatiya, Fashion of Sculpture, Rudrama

INTRODUCTION

"Periodization based on religion as the sole criterion of historical activity is a negation of history."

Prof. Romila Thaper
A familiar Historian

Though there were many regional styles of temple architecture existed in medieval India the Telangana style is the most distinguished. This style covered entire Telangana region as prominent style and extended into Andhra region. But it is interesting to know at the same time art and architecture in Andhra is highly influenced the Chola and Vijayanagar at later times. Simultaneously Telangana region is highly influenced by Chalukyan style and continued so on. This style of temple architecture is distinctively prevailed from the 11th century A, D. coinciding of Kakatiya dynasty and their overlords Kalyani Chalukyas. The influx of artists and architects from Karnataka to this region as this area under the control of Kalyani Chalukyas. This caused to witness the sudden appearance of distinguished features of architecture such as formal and decorative, though have no contacts with the earlier styles of this area namely Sapadalaksha or Kandurnadu. It is attempted to study the architecture of this region from 1000 A.D to 1163 A.D as it was under the impact of Chalukyan reign.

A few early Chalukyan temples found at Alampur in the Mahaboobnagar district deserve the attention. Scholars like Soundara Rajan expressed that the Alampur temples has similarities with Papanadha and Galugunadha temples at Pattadakal. The same scholar expressed that the Alampur temples are enriched by Chalukyan architectural and structural devices as elaborated in succeeded by the Rashtrakuta stage. An eminent authority in Indian architecture like Brown states that these temples indicate the development of the main early Chalukyan style. Scholar like M. Rama Rao made a detail comparison between the Alampur, Satyavolu, and Mahanandi groups of temples in Andhradesa and Pattadakal and Aihole groups of temples in Northern Karnataka and pointed out the items of similarity and difference. One clinching fact that all these temples have curvilinear vimana crowned by Amalaka Sikhara with a sukhasana projecting in front and no other early Deccan dynasty is known to have raised this type of Vimana excepting the early Chalukyas. Further, as Brown has rightly said, most of the Alampur temples resemble the Papanadha temple of Pattadakal. Soundara Rajan also admitted that they are akin to Papanadha and Galagunatha temples. The Thummayaneru grant of PulakesinII shows that Calukya-visaya containing parts of Mahabubnagar and Kurnool district was included in his dominions. Other records show other parts of these two districts were in the Calukya-visaya and Vanguravadi- visaya.

An inscription at Alampur on the foot wall of the bank of the river Tungabadra mentions the erection of that prakara in the eighteenth year of the rule of early Chalukyan King, Vijayaditya II This shows these temples ere all raised by this date and fort was built in order to protect them. For this reason and on the basis of stylistic similarities the Galagunatha and Papanath temples and these groups of shrines have to be assigned to early eighth century A.D. Soundara Rajan made a remarkable suggestion, obviously because Satyavolu temples do not conform entirely to the plan of Aihole temple and it was made sure that the satyavolu temples were raised

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under Eastern Chalukyan patronage. The temples of Alampur, Mahanandi at Kurnool, Satyavolu briefly noticed so far, are of great significance. They are undoubtedly early Chalukyan in main as indicated by their Vimanas and few other common features. But they exhibit many variations in plan and other details. These temples are the result of the local variation of the main early Chalukyan style and some of them like Svargabrahma and Balabrahma have added to the beauty and elegance of the style. They are the distinct contribution to architectural experiments in early Deccan.

Culture in Architecture of Kakatiya's

The combined Andhradesa made a valuable contribution during the period of rule of Kakatiyas of Warangal (1000A.D to 1323A.D). The Suryanarayana and Narasimha temple at Alampur, the Pacchala Someswara temple at Panagal, Chennakesava temple at Gangapur, Ramalingeswara Temple at Nandikandi, Agasthyeswara temple at Aihole and Someswara temple at Kulupak are ascribed to the afore cited period which have the more Chalukyan impact. Before entering into the discussion on the architectural aspects of 11th century temples it is contextual to have a review of the architectural features of Rashtrakuta period to under the developments in architectural feature that followed on. Papanasi, Maremunnagala, Panchalingala, Alampur, and Vemulavada temples built in Rashtrakuta period. The Maremunnagala and Papanasi temples are featured with common Ranga mandapa featured of trikuta plan. The other temples are comprised mukha mandapa, antarala, and garbhagriha, and Nandi mandapa are forming integral part of this scheme as we notice at Bhimeswara Temple at Vemulavada. The bases are either manca type, or a mixture of pala and pratabhandha types. The manca type is seen at Panchalingala, Merugumalla, Alampur, Papanasi etc. The latter is observed at Bhimeswara temple at Vemulavada and Alvanipalli. Further the use of upapitha adopted to Bhimeswara temple at Vemulavada.

In most of these temple's walls are plain with a niche. The wall pattern thus remained simple. Among the super structural forms, we notice phamsana, Vimana, Salakara, and Gajapristaakara. The pillars are of chitrakhanda type. The doorways are triple jammed, richly, and lavishly adorned with vyala stamba, lata patra. We may notice nidhi figure and Chandrasila besides the Ganga – Yamuna high relief sculpture on both sides of the doorjambs. Chandrasila (moon slab) is generally found in front of the doorstep on the floor of antarala and Garbhagruha. Best examples of ornamentals member are noticed in the temples of Hanumakonda, Warangal, Jakaram, Nagunuru, Pillalamarri, Kusumanchi etc. It is carved generally in high relief and composed of two sections. The lower section is the base normally it is in the form of Pattika. The upper section is in semi-circle or ardha-Chandra in general design.

Usually, Ganga sculpture will be on right side and Yamuna on the left side. The ceilings are flat type and sometimes lozenge shaped ceiling are used. Though the architectural feature of 11th and 12th centuries are attributed to the typical Dravidian styles while the Phamsana form has continued as favorite element in the preceding centuries, the Bhumija form also makes its appearance on plan the temples have open ranga mandapa, antarala, garbhagriha instances of the temples having a mukha mandapa are also encountered as in the Suryanarayana swami temple at Alampur, The Chennakesava swami temple at Gangapur. Trikuta form is also found. However, the variation to the trikuta is shown by placing the shrines at the back of the mukha mandapa, instead of placing on either side of mukha mandapa. This typical feature seen at Panagal, Ainole and Alampur. In the Chennakesava temple the panchayatana layout is noticed at Chennakesava temple at Gangapur. Depending upon the form of the temple the plan of garbhagriha is made star shaped, this is found at Nandikandi where the temple is of Bhumija form. The proliferation of the wall beyond the manasutra line also encountered in the temples of Panagal, Nandikandi, Gangapur.

Artistic Features in Temples

Generally, these temples stand on low plinth which is a typical characteristic of Chalukyan style but the temple of Gangapur and Nandikandi are exception built on high plinth. When it is used, this is in the manner of jagathi of nagara style. The tenth century temples in Telangana region have high Upapitha typical to the Dravidian style while this has Upana, Kantha, Pattika, the Gangapur and Nandikandi temples have Jagathi possessing a series of Bhittis devoid of any decorative carving. This new feature was vogue in Kuntala as well as Lakkundi. The bases depending up on the form of the temple depends on either an Adhisthana or pita. The former is seen at temples at Papanasi, Ainole, Punnole etc. the latter is evident at temples at Malleswaram, Alvanipalli etc. At Nandikandi we have pitha possessing bhatta, jadyakumbha, antarapatra, Kapotali while in the ranga mandapa part the Karnika is introduced. This actually tripatta Kumuda which acquired the shape of Karnika by virtue of its compressed and knife edged form. Though early shrines at Panagal, Gangapur are of Dravidian style, they also reveal the change in the form of the mouldings as well. Here we have usual upana, jagathi, and Karnika and kapota. This transformation is lucid in the thousand pillared temples at Hanumakonda[9]. The proportions and form of moldings are closer to the bases in the temple at Lakkundi, Gudur etc. by this the fabric of the base is completely different with Dravidian style or for that matter the styles of the earlier period in this region.

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The important change is seen in the treatment of wall which certainly bestows individuality to the style. During this period, we notice three kinds of wall. In the first type, the wall is composed of intended buttresses like the massive pillar in its look and are faceted. The Kutasthamba enframed in makara torana occupies dimly lighted recessed parts of the wall. The shrine models used in these are Phamsana form and are narrow and elongated. The makara torana spiring from the end of Kutasthamba converges at the point of Kalasa. Similar decorative elements are adopted in the temples of Kuntala region which however differ in the aspects of rich décor and bulging shape as opposed to the slender, elongated, and abbreviated form that found in the Telangana region. In the top portion of the buttress, he widely differentiated utter element repetitive in its employment is also found. This type of wall also noticed in Pacchala Someswara temple at Panagal. while this type of wall is not appeared before the 11th century A.D., in Telangana region. Its appearance along with a new type of pitha underlies the sudden emergence of new style. However, the sources for this type can be found in the 11th century temples of Kuntala region, particularly Kasiviswara temple at Lakkundi, the Galeswaranath temple at Galaganath and Ramalingeswara temple at Gudur etc.

Through the pages of history, we observe that certain forms of the temple were cherished and nourished by certain dynasties. With the result that we come across terms like the Pallava architecture, the Chola architecture, the Chalukvan architecture, the Hoyasala architecture, etc. Here, the word architecture is often used as a synonym for style. Against this background the Chalukyan architecture expresses itself in exotic forms of sikhara and arrangement of the ground plans.In particular, the Kakatiya religious architecture shows a variety of ground plan arrangements. One such is the Trikutachala.

Various Art forms in the Kakatiya's Temples

In temple architecture, the architects adopted different structural forms like avarasra, chatrasra and gajaprista or apsidal form. Trikutachaa temple form is an extension of chaturasra form distributed on three sides of a centra man-dapa thus giving a structural unity OR plan as well as in elevation. Trikutachala or Triple shrine is a popular style of temple architecture which flourished in Telangana and other parts of the Deccan during the period from A.D. 10th century to early A.D. 14th century. The Western Chalukyas patronised this type of structural temples in their period. Later the Kakatiyas and the Hoyasalas followed, favoured and popularised this trikutachala form.

Trinity' is the most revered concept of Hindu worship. The three great gods Brahma, Vishnu and Maheswara are placed in the highest state of divinity in Hindu mythology. Though, trikutachala form was not developed along with the worship of the trinity, but certainly the evolutionary stage of this style coincided with the worship of the trinity. Most of the early triple shrines are dedicated to the trinity. Worshipping trinity was popularised by the Pallavas and the structural evolution of a temple also took a major turn under the reign of the Pallavas. The Mandagapattu inscription of Mahendra Varma-I of the Greater Pallavas of Kanchi clearly states the creation of a temple for the Hindu Trinity. In that Mahendra Verma claims "This Trikuta was caused to be constructed by him for Brahma, Iswara and Vishnu worship without using bricks, timber, metals or mortar". From this inscription and the Mandagapattu cave, it can be deduced that the worship of the Hindu Trinity and the concept of Trikutachala was popularly known in the early historic period also. The Mandagapattu cave shrine which form a triple shrine consists of a rectangular hall 6.7 metres in length, 7.3 mts in width and 2.64 mts in height. In the back or south wall are three large niches 1.2 mts deep and a stone image was housed in each niche.

Apart from Mandagapattu, we can find the evolutionary stage of Trikutachala form in the early rock-cut caves of South India. The cave temples of Andra Pradesh at Mogalrajapuram, Vijayawada and Undavalli have the formative features of later Trikutachala temple forms. The first cave of Mogalrajapuram is a simple unit of three shrine cells. Akkanna-Madanna cave of Vijayawada and Undavalli cave unit also stood as early examples for excavation of triple cells in a row and are dedicated to the worship of the Trinity. After that, the Trikutachala style opened its wings in the Deccan caves. There are many triple shrines in the Ellora caves, Elephanta, Jogeswari, etc. and we can casily identify the process of adopting cruciform ground plan to Trikutachala in these places.

The first structural Trikuta was found at Badami. The Jambulingeswara temple at Badami was founded in A.D. 699 by the queen mother Vinayavati and this temple is called as "Traipurusha devalaya". It was built in cruciform having three shrines in the north, west and south which are dedicated to the worship of the Trinity. Kalyani Chalukya's admiration for this unique form is known to us from their Trikutas at Rattepalli, Harahalli in Karnataka and Malleswaram, Raikal, Valigonda, Chilvakoduru and Tandur in Andra Pradesh. As subordinates and successors of the Western Chalukyas of Kalyana, the Kakatiyas cultivated and adopted many of the architectural styles that were more prominent under the former. They added some more structural features like large upaptihas, high adinisthana recesses and projections in wall decorations, etc., all giving a perfect horizontal and vertical distribution of the architectural form.

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Great Art and Innovation in Architecture

Kakatiya temples are well known for their interior decoration and especially for their latha turned pillars. The Kakatiyas and their subordinates left many Trikuta shrines which still remain in Telangana and other regions. These are found at Hanamkonda, Panagallu, Pillalamarri, Nagunuru, Kalabagur, Kondapaka, Nagulapadu, Garla, Kuchumanchi, Upperapalli, Katkur, Mutharam, Manthani, Vilasagar, Chittapur, Timmapur in Telangana region and one Trikuta at Pushpagiri in Cuddapah district are the best standing examples of this unique architectural form. Three shrines located on the three faces of a common mukha-mandapa is the most common feature in the temple layout of a Trikuta style of architecture. At some places three shrines are planned in a single line parallel to each other with a common mandapa in front. This form of layout is also described as Trikuta form of architecture. Among the Kakatiya Temples, all the Trikuta temples were built in cruciform ground plan. Except one, temples at Kuchumanchi have a rectangular mandapa with three shrines in a row on one side.

The Kakatiyas with their conquering zeal and spirit of nationalism and patriotism united the all the Telugu-speaking parts of the Deccan under their paramount power. It was for the first and the last time also (before the formation of Andhra Pradesh State) that the Telugu-speaking people were united under one government. Their spirit of nationalism and patriotism stood them in good stead in their offering gallant resistance to the Islamic invaders. This radition and legacy of the Warangal kingdom was however continued by the Vijayanagara rulers.

The Kakatiyas had their ascendency during the dominion of the Chalukyas of Kalyani. The earlier doubts expressed by certain scholars in tracing the descent of this dynasty from Kakartya Gundyana, a subordinate of the Eastern Chalukyan monarch, Amma II (945 AD.-970 A-D) were set at rest in view of the recently discovered Bayyaram Tank inscription The names Kakartya, Kakatya and Kakaliya are etymologically connected. The dynasty derived its name either because of its association with a town known as Kakatipura (since the kings bore the title 'Kakatipuravallabha') or because of their worship of a goddess called Kakati. At Ekasilanagara (Warangal), the capital of the Kakatiyas a temple was dedcated to Kakitamma. Hence there is reasnon to believe that Kakatipura was another name for Warangal itself. The inscriptional evidence points out that the Kakatiyas were Sudras and that they were members of the Durjaya family whose remote ancestor Karkkalahola founded or first settled in Kakatipura.

In spite of inheriting the architecture style of Chalukyas, the architecture monuments of Kakatiyas have some distinguishing characteristics of local nature. Besides, the architects used the locally available granite and sandstone in the main structure of the Vimana and used bricks and lime in constructing superstructure. They used black granite for pillars, jambs, lintels, decorative motifs and icons.

Architectural Features of Thousand Pillar Temple

The Thousand Pillared temple or the Rudresvara temple consists of a triple shrine complex, Nandimandapa and a Kalyanamandapa built one after the other from north to south. The original prakara around this large temple complex is not extant. At present a compound wall built around the temple in recent times serves as the prakara leaving a rectangular courtyard. Apart from the modern entrance gate in the north, there are two dvaramandapas in the east and the west.

In the North-East of the courtyard, there is a tank built with finely dressed stone and provided with a flight of steps. This tank is in a rectangular form looking like a large well and maintains good water level due to the presence of natural springs within the tank The three shrines of the Rudresvara temple and the central mukhaman-dapa are erected on a high upapitha. The upapitha or the jagati provides a common platform for the three shrines. The upapitha is built on a star shape. It also serves as an open pradakshina patha around the three shrines and has a width of 2.75 metres.

The upapitha raising to height of 1.43 metres has the typical Kakatiya mouldings. The following are its mouldings from bottom upwards - upana, jagati, kantha, patta, padma, galapada decorated with rat no. motifs, projecting pattapadma, kantha, tripatta kumuda, kantha padma and patta.

The Triple shrine block consisting of three shrines on the three sides of acentral square mukhamandapa is built on a cruciform ground plan. The mukhamandapa has a projection towards the south and is provided with a mukha-chatusuki in front of it.

The three offsets on either side of the central bhadra projection of the wall are depicted like kudyastambas. The upper register of the wall or the The figure of Surya is represented with youthful body on the niche of the north wall of the antarala. He is adomed with diamond studded kirita-makura, a halo around his head and wears ardhoruka and ornaments. He is shown holding two lotus

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flowers in his two hands. Another interesting Surya image is sculptured on the south wall of the antarala of the Suryadeva shrine. Here Surya's head is canopied by the hoods of a serpent. Though this image is also mutilated, Suryadeva is shown in standing posture. The sculpture of serpent hoods above the Sun is a unique feature and equalizes Surya with Narayana.

Ramappa Temple

The main units of the edifice were laid centrally over such weak foundations in an east-west axis. This resulted in sinkage of the structures, the fall centered inwardly: even the displacement of the heavy beams, slabs, pillar brackets clearly show the nature of this decline. The angular upsurge of the floor slabs under the pillars and walls is due to the unequal settlement of the sand pack at the foundation. But strangely enough the uttira (the beam) the bracket figures connecting it have not collapsed to the ground although present a precarious look. It is because the individual members of the pillar, and the roof slabs or ornate bracket figures are held by stone dowels-conical pieces sometimes even freely rotating, wherever the mortar or lead packing in the slot has gone due to heat. Therefore, a mixure of apoxy resin in quartz sand was filled in these voids. The massive beams were tied up similarly as also the chajja slabs and Kakshasanas (back seats) etc. The dowel patterns are interesting and range from simple ties to crosswise, right-angular, single armed swastika type etc. More interesting is the driving of the stone nails or wedges, not the metal ones. This clearly points to the awareness of the architects the undersirable effects of metal dowels particularly iron ones.

Sikharas of Light Weight Bricks

A noteworthy feature, unique indeed, was the use of light weight bricks on the Sikhara of Ramappa Temple as also of the adjoining Devi shrine. The Sikhara over the main sanctum is typically of the southern order (squarish on plan stepped pyramidal Sikhara) and raised in four tiers (talas). Each tala invariably has the reinforcement of wooden cross-beams at the base on all beams got spoiled due to wood rot leaving the voids unfilled thereby the brick the four sides and in addition diagonally across the four corners. All these wooden masonries of each tier had no basal support and was overhanging. The portions of the western and northern faces. The stupi is lost and a hollow can be seen to the the Sikhara from griva (neck) upward was simply shaking. The brick masnory has crumbled at various places and cracks are extent, particularly on the exteriors at Sky which incidentally has become the abode of birds and bats. The bricks used in raising this Sikhara are unique, they being of feather-weight well. burnt, virtually fused but reckoned as floating bricks of Ramappa Temple". The.sikhara could stand in its shape, perhaps due to this extremely light super structure for a considerable period, even when the wooden joints got worn out. But with the expanding cracks in the brick masonry and weakening of the binding mortar, in course of time, the process of decay had quickened and caused alarm. Large chunks of the brick core-filling started falling inside the shrine through the void between the cross lintel and the over door shaft of the main entrance of the sanctum.

Originally this gap between the ceiling and the door lintel was covered by the bricks laid header-wise. The space in between the door and the connecting roof of the antarala was again filled by brick bats and loose stuff, set in lime mortar. Immediate steps were taken to remove the debris and arrest further collapse. The gap between the lintel and wall is closed with taki stone slabs. The hollow caused was packed with old bricks of light weight and alternately coal- ash mixed in lime and "cement mortar.Since the old bricks of the site were extremely light and porous every care is taken to collect them for reuse. As a good quantity of light weight bricks was essential, advise of experts of Brick Research Institute, Pune was obtained. A Brick-Manufacturing Company called "SIPOREX INDIA LTD", responded and prepared lightweight foam blocks matching in fabric and porosity, hard enough to bear the load like the Kakatiyan ones of the site. The size of the Siporex blocks was, however, 59 x 24 x 15c.m. They "twere trimmed and reduced to the size of 30x22 x 8.5 c.m. before using them in the conservation works.

Thus, the re-setting of the broken mouldings and finer architectural details has been achieved by chamfering of the old bricks, the external finish was given with milk of lime plaster added with Karakkai, Jaggery and egg mixure. Since there was no much figure work on the external face originally except geometrical and leonine heads marking the doucene mouldings of the talas and the Kudya sthambhika decor pattern, problems did not arise. The Sikhara talas a somewhat subdued har of kuta sala and panjara sikhara miniatures alternatively. This was brought out ably by the sthapatis who undertook the transplantation of the temples at the submersible areas of Sri Sailam.

The temple is pentagon in shape, raised on a platform about six feet from the ground with beautiful architecture which is one of its kinds. This platform connects the entrance hall, dance hall and the main sanctum. There are nearly thirty-two pillars with rich and intricate carvings and even the roof is covered with sculptors of the warrior Gods. To the left side of the main shrine, there is a pillar which generates music upon which you can play primary musical notes. On the top most part of this pillar, you find beautifully carved drummers in various dancing postures.

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There are many beautifully carved sculptures, one is that of **Rati**, Goddesses of Spring, holding a bow made of sugarcane with the arrows of desire. There is also a pillar to the side of the courtyard, with one of the earliest Telugu inscriptions carved on it. There is a **temple of Lord Shiva** which is almost falling to pieces with finely carved Nandi (bull mount of Lord Shiva) housed in a separate hall. As you walk around the temple premises, you ll get to experience the royalty as this is the land where the Kakatiyan kings once toddled. The beautiful carving on the granite with fine cuttings is not the job of a day, rather, took months to build the temple what it stands as even today.Dedicated to the God Ramalingeswara, the temple was named as ramappa temple on behalf of its sculptor named ramappa.

THE KEERTHI TORANAS

Investigations revealed that the Torana pillars stood over an anvil slab of 40 cm, thickness on a sand bed and the exterior mouldings were also resting on the packed sand cushion. The stone mouldings consisted of two layers of Upana of 55 and 75 cms. high. The upper Jagati has stones of 90 and 55 cms, with a decorative dala-padma or Rekha padma mouldings. The top flat stone is of 38 cm, thick. From the investigations of the foundation, we understand that the Torana pillars have an ornate adhishthana which was exposed to public view after the consolidation of the foundation. The base of the flat stone is strengthened by insertion of an "1" Eastern torana as well as the Northern torana were provided with this type of concrete apron and a curtain wall along the foundations to arrest any swing of the upper part of the torana. May it be noted that this type of apron still exists during the Nizams period also around the Ramappa temple which was retained %, and strengthened around.

Artistic Modern Method of Temple Construction

The method of construction of Kakatiya temples was to excavate a wide foundation pit 2m to 3m deep below ground level and fill it with sand which acts as a "sand cushion" under the foundation, a technology which is still being practised in areas where expansive soils are found. Then a retaining (basement) wall of drystone masonry without any cementing mortar was constructed over the sand cushion all-round the periphery of the temple to a height of m to 2m above ground level and then the space inside the walls was filled with sand. Thus, the basement filling was done in sand which is a good engineering practice. Kakatiya temples followed a pattern of star type construction for accommodating Trikuta alavas. This system comprises of three temples and a pradakshana patha. The top of the first basement retaining wall affords a platform which acts as a pradakshina patha. The famous Nandi of Thousand Pillars Temple is located on such a platform. A second basement retaining wall is built over the first platform and the space in between it is filled by sand again. This affords the actual temple floor level to be raised well above the ground level to lend grandeur to the entire temple complex. At this level, floor slabs and also floor

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(foundation) beams are laid on sand. At the corners of the floor beams, the pillars rest vertically, transferring their load to the sand through the floor beams, while the space between the floor beams being covered with floor slabs. The roof consists of stone slab panels covered underneath with decor and rough finish at the top which rest on beams tongue-and groove joints.with corbel stones to suit the pattern which ultimately rests on columns with The peripheral walls for temple are cavity walls with two stone blocks on either side to give required thickness of wall and the gap in-between is either left free or covered with sand or earth. The roof slab panels were covered with lime surki/earth.

Causes of Failure of Monuments

The sand used in basement filling, acting as foundation soil under columns was found to be not well compacted at the time of investigations. It was poorly graded with a relative density of only 40% - 60%. Effective confinement could have been lost by the drystone masonry retaining wails as the walls had only shallow embedded depth of 0.3m - 1. Om and sand could spill through the joints of (displaced) masonry. The study at Ramappa temple has further revealed that the lineaments and paleochannels, passing through the temple premises might have helped in the loss of confined sand over a period of time particularly due to the fluctuations of reservoir levels in the upstream side in Ramappa lake. A similar phenomenon was also noticed at Thousand Pillars temple. The reactive upward pressures exerted by the foundation soil (sand) on the thin (0.3m thick) wide stone beams of inferior variety of rock caused tensile (bending) stresses in them exceeding their tensile strengths. Hence, almost all the floor beams cracked somewhere in the middle of their spans leading to floor upheaval. This is the most typical failure pattern to be observed not only in the monuments under investigation but also other temples in Warangal district built during the same period. This failure is conspicuously seen in Ramappa temple, where the floor upheaval is of the order of 30 cm. The detailed investigations conducted have revealed that the reasons of earthquake or failure due to expansive soils is remote. Human vandalism and poor maintenance (particularly of the roof drainage aspects) are the other causes of failure of these monuments. The temple architecture of Kakitiyas replicates high superiority and the 'Thousand-pillared temple' is an attraction in the fruition of the Kakatiyan architectural style. The splendid temple Rudreswara, which was built by Recharla Rudra, the commander in chief of Ganapati Deva is a great sign of the culmination of the Kakatiyan style. The Gomateswara temple at Manthani, the Erakesvara and the Namesvara temples at Pillalamarri and the temple at Naguladu are the masterpieces of the Kakatiyan style of architecture.

Summing Up

There is a little evidence with regard to Kakatiyan sculpture. Among the sculpture of Kakatiyas the significant one is the Kirtimukha or Krititorana. The unique features of Kakatiya sculpture is the Nandis. The Nandi images at Palampet, Thousand-pillared temple, Sambhuni Gudi, Ghanapur, Kolanupalli are some of the unsurpassed examples with plentiful bell embellishment. The sculptural presence of Hamsa or swan motifs, on the gateways and friezes is to be noticed for their grace and beauty. Of the decorative sculptures, the motifs of dancers and Kolata are worth recording. The dance styles patronaged by Kakatiyas resemble the dance styles of Jayapasenani. The Narasimha temple at Parivela near Nalgonda consists of profusely carved lintels and jambs. The temples at Nandigonda contain splendidly furnished Mandapa pillars and ceilings. The art of painting is also received the royal patronage. The traces of painting that are found on ceilings of the pillared halls of the temples at Ghanapur and Palampet bear witness to the painting expertise of that period. The defaced painting of the 'Churning of the Milk Ocean' found on the ceiling of the Sabha Mandepa of the Namevara temple at Pillalamarri is also a good example of their painting skill. Kakativa Kings who ruled the Eastern Deccan with Warangal as their capital from 1160 to 1323 A.D. as sovereign rulers built magnificent stone temples and monuments with beautiful sculpture and architecture.The rule of Kakatiyas in Telangana is an era of transition and accompanied the starting of an epoch in the 13th century. The Kakatiyas by their support of art and their integrative polity improved agriculture, commerce and trade in the interior and construction of temples in Telangana, Rayalaseema and coastal Andhra. Majority of these monuments suffered structural damage over the years and if not restored now, they may completely collapse in course of time. The remedial measures suggested in the report comprise of (a) Structural forms like CC raft foundation (b) strengthening of sand by introducing root piles (c) Treatment of the sand by chemical grouting. These methods have to be adopted depending upon the feasibility considering site conditions and type of conservation suggested by the Archaeological Survey of India.

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