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REPORT ON CONSERVATION

Sri Kurma Varahaswamy temple, Srikurmam, Srikakulam District, Andhra Pradesh.

History and background:

The temple dedicated to Kurmavata of Vishnu is unique as the form of tortoise is worshipped here contrary to anthropomorphic forms elsewhere. Available lithic records in the temple place the date of some grants for the Pujas in this temple and the temple could have been constructed some centuries earlier than that.

In plan the temple is garbhagriha, Ardhamandapa, Mahamandapa and a mukhamandapa. The complex is enclosed by a cloistered Mandapa of single row of pillars and the outer wall bore the weight of the other end of the ceiling slabs. During 17th CE the inner Prakara walls were painted in ancient Oriyan style depicting various scenes from Krishna Lila. Among them only 28 small panels are now preserved over the southeast and southern corridors.

The superstructure over the sanctum is Dravida Vimana of Charnockite stone and found with rare intricate carvings. Inner Vimana is arranged in corbel system and the ceiling slabs cover the inner ceiling.

The main Stone sculpture is said to be formed out of many Saligrama fossils and the central body of the tortoise is the biggest Saligrama of all. There are two Dvajasthambas in eastern and western side of the main complex.

Inscriptions of Telugu, Tamil and Oriya are found inside the temple and reference of the temple is found Kurma Purana and Telugu and Tamil Literature of 12th CE.

This region of Andhra Pradesh was part of Kalinga region at first and later a part of Gajapati kingdom up to medieval period. Later it came under Hyderabad Nizams assigned to Gulshanabad (Srikakulam name changed into Persian name). Nizams have handed over this region to French for some times during 1707 to 1753. Later British have fought and driven out the French rulers and taken over this region under their own control.

The southern Gopura and the concrete structures abetting the Mahamandapa were added recently.

Date of visit: 18th February 2011.

Members present from REACH:

Dr. T Satyamurthy – Founder Trustee, REACH FOUNDATION, S.Dandapani – Senior engineer REACH Smt. Srilatha Rao – Sr. Conservation Chemist, REACH and Shri. J. Chandrasekaran – PR & Secretary, REACH FOUNDATION

Members present from Endowments Department:

s/si. Muthial rao – A.C - Srikakulam. Prasant Patnaik E.O – Srikurmam,. Krishna A.E – Srikakulam and other temple staff of Srikurmam.

The team's visit and observations.

- There are many layers of lime wash applied over (both inside and outside) Prakara stone walls.
 - The dwarapalakas and other sculptures at the entrance were fully covered with modern accretions.
 - Over the northern Mahadwara cracks developed and visibly unstable.
 - Inner Prakara wall: Pillars are found leaning due to dead weight over the ceiling.
 - Many ancient Telugu/Oriya inscriptions are found to be covered with white wash/ railings/ electrical lines.
 - Agra Mandapa pillars, ceiling were also covered with lime.
 - The Prakara walls were painted with mural paintings in Oriyan style in tempura technique during 16th CE depicting various Krishna Leelas. Among them only 28 panels over the south and SE sides are now preserved. New electrical fittings are running across these rare murals.
 - Some niche figures in the Main Vimana were mended with cement, which are already disintegrating.
 - Pointing on the Prahara Mandapa and the main vimana were done with cement.
 - Original plinth level are covered with modern floors
 - Visible leakage problems on the main Vimana. It is reported that the seepage continues in the sanctum and the Mahamandapa during rain and even after a month.
 - Outside Mandapa – the Agra Mandapa is totally sunk.
- 1. **The Vimana:** The Dravidian style Vimana over the sanctum is Stone construction from bottom to Top. Wide cleavages and cracks are found in the vimana, due to uneven settlement on the North east and North Western sides. The Vimana has leakage during rain due to stagnation of water on the various talas (levels) in small pockets. This water tends to seep through the wall and the dampness in the inner core keeps the inner ceiling in wet condition for a prolonged time.

This has to be attended immediately by hand grouting the gaps, filleting and pointing after removal of vegetation and cleaning properly. The plinth level of the Vimana needs to be revealed, to necessitate finding out the original water drainage system. All water should be allowed to run and get released through this system only.

- 2. It is observed that many stone relief and figures (like elephants and other icons like Ashta Dikpalas)) were mended with cement. Broken parts are replaced with cement moulds. It creates an eye sore and they have already broken away from the parent material (granite).

These should be re-mended only with original stone carvings.

Stone flooring around the main shrine is also required to be exposed to the original plinth level to allow regular water draining.

- 3. The prakara walls are found to be constructed with Kandolite blocks, but found to be applied with lime and colour wash subsequently. The lime so applied is disintegrated and parts away from the wall and the gaps are filled with dirt and dust. During rainy days water enters the core through these gaps. It weakens the core of the wall.

Lime wherever applied should be removed by applying proper chemicals and washed with clean water. Water jet cleaning suggested. The original stone, be in kandolite on the outer walls or soap stones in the inside maha Mandapa, should be exposed and retained. This would enable the inscriptions also be visible and readable. If these inscriptions are not estempaged and deciphered, the same may be carried out with the help of epigraphists, which would reveal the real history and its chronology of this shrine.

Other measures suggested are stated below:

- 4. In the Mahadwara (North) too, heavy white wash is a deterrent to inspect the original floor or plinth level in each level of talas. Extra dead weight of the cement ceiling floral work as well as laying additional flooring on top of the original flooring has led to the disintegration of the pillars and columns.

The lime should be scrapped manually, original surface be exposed and chemically treated. Water tightening of the roof should be done in traditional manner as prescribed in the conservation manual. Original ceiling should not be covered with any plaster. Pointing and grouting of wider gaps should be carried out.

- 5. The dead weight over the Prahara Mandapa / main shrine's pillared Mandapa was exposed by digging out a sample area in front of the engineers, in the Northern side of the roofing. In the past the dead material has been buried inside, and the cement mortar of almost 50 cm has been added over the dead material. Roots of vegetation has penetrated into the surface, thereby causing breakage of the roof weather course as well as dampening the whole surface together. The Main shrine's pillared mukha Mandapa is overburdened with the heavy weathering course. Trees have started growing in many places, roots penetrating into the dead material buried under the existing roof top. Due these facts, the Mandapa is leaking, many pillars due to heavy weight over the roof have shifted out of plumb, capitals and some slabs are also broken.

- **This work has to be carried out in top most priority. The dead materials should be dug out for full depth up to ceiling slab. The broken members should be replaced wherever necessary. Resetting the pillars which are out of plumb and water tightening the terrace properly with average depth not exceeding 25 cm in the centre, with clear slope towards the end, for water to flow into the original pranalas should be reworked. Tree killer chemical should be applied wherever vegetation grows and the roots to be killed permanently, before the relaying of the roof materials. The brickbats that are broken while dismantling the roof themselves can be re-used and plastered with lime mortar, which would also cut down the cost of relaying the roof. In the south eastern and southern side the load bearing wall has got ancient mural paintings. While dismantling and relaying of the weathering course care should be taken to see that the murals are not affected by this work.**
- 6. The mural paintings on the South and eastern corners of the Mandapa are very rare indeed. These types of original Oriyan paintings are not even found in temples of Orissa, but are seen here. These are at least some 450 years old.

The white wash and distempers above and below the panels now seen need to be removed slowly to check if there are any more paintings masked underneath. The old electrical wiring and the new wiring lines seem run over and above such rare paintings. These should be removed and provision for electrical lighting should be done externally through other means without disturbing the paintings. The paintings should be cleaned out from soot and dust and the external walls through which seepage occurs, needs to be grouted and pointed, to enable arrest water percolation henceforth. The chemical conservator will prepare a detailed report and suggest measures to preserve once the structural work is done with.

- 7. The Dwarapalakas and other free standing sculptures should be cleaned immediately with mild liquid soap solution having just 5% of liquid soap in water. Soaked cloth can be applied on the sculptures and then wiped with dry cloth. If the kumkum and vermilion are applied with oily substrates, then Shikakai paste can be applied and water jet (car cleaning motor with the spray jet) is good enough to clean the oily materials over the sculptures. Similar treatment can be done to all the pillars which are covered with vermilion and kumkum. Paint remover may be applied on surfaces where stubborn enamels or distemper is applied earlier. After that water jet may be used to clean the surface and enable expose the original stone/ pillar/ sculpture.
- 8. The Prakara walls are to be dug out on its perimeter to expose the original plinth level and also accretions like digital banner of cement podiums close to the Prahara wall allow water to percolate into the ground close to the walls and 3weaken them. The lime accretions on the walls should be cleaned totally, grouted and then pointed. Similar methods discussed above, like applying chemicals and then cleaning with water jet of low intensity (5 to 6 psi) using car washing jet and pump can be utilized. The reliefs found on the Southern external walls are rare indeed. Many such relief figures have been scrapped during earlier renovations. Those two or three relief figures need to be cleaned very carefully and be retained. The original plinth level of the walls both inside and outside

should be dug to be revealed and original water way or drainage system for surface drain and abhiseka water should be revealed and rejuvenated.

- 9. The bronze vahanas are also rare and are antiques. Cleaning with liquid ammonia and stabilizing them with clean de-mineralized water should be carried out periodically; otherwise they may be oxidized.
- 10. In the Garbhagriha as well as in adjoining mandapas, tiles are seen. These should be removed, so that the position of the original walls can be observed, examined and maintained periodically. Many inscriptions would have been buried under these tiles.
- 11. The new extension of Arda Mandapa made of cement is actually adding to the dead weight of the vimana as well as is seen breaking in every 8 feet length. Cracks have found developing, as they do not merge with the parent materials like stone and lime mortar. If possible at a later stage this Mandapa can also be re-designed and made to stand independently, without touching the Vimana.

We were informed by locals that in consultation with Foss Rock chemicals, Visakhapatnam, (who are suppliers of epoxy grouting material and water proofing materials) a proposal is under consideration by the public works department (NABARD) to do water tightening of the Mandapa by just over laying new grouting materials, which include cement concrete and pointing using epoxy and bitumen on and above the dead material buildings at a cost of approx. 21.00 lakhs.

This proposal is against the principle of conservation of any ancient building. It will aggravate the problem and the deadweight over the roof will weaken the other load bearing stone members. The disintegrated mortar is very weak and if over burdened, it would allow further seepage.

While discussing with the engineers of the endowments department, they showed immense interest in learning the renovation and conservation practices themselves, if properly guided by a heritage Conservation expert. REACH FOUNDATION is ready to appoint a conservationist on site, for any such projects and teach the engineers all the methodology.

Before the beginning of the works proper photo/drawing documentation of each and every details of the structure should be carried out. Such Photo documentation is necessary during the works in progress also. Detailed drawings of each part should be done in AutoCAD or any suitable design software and retained for posterity and reference whenever necessary. This would enable the department's engineers gain knowledge and confidence, than assigning the work to third parties.

Chemical conservation of paintings should be carried out directly by the Department for which technical support will be given by REACH.

Submitted by
REACH TECHNICAL COMMITTEE