

Tipu's lost paradise found

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Juxtaposing old map with recent satellite images, NIAS team finds demolished Lalbagh palace



HIDDEN GEMS OF BENGALURU: *(Clockwise from above) One of the the kabutarkhanas (dovecotes) that was found during the survey by National Institute of Advanced Studies; students pose in front of the ruins of Tipu's Lalbagh palace that they 'discovered' after the survey*

A team from the National Institute of Advanced Studies (NIAS), Bengaluru, has found the location of Tipu Sultan's Lalbagh palace – including its entrance – now covered under dense vegetation. During a ground survey, they also found the basement and a 'kabutarkhana'.

This palace, belonging to the 18th century ruler of Mysore, was demolished by the British.

The NIAS team has been using Geographic Information Systems (GIS) and remote sensing (RS) technologies to create a database of Karnataka's archaeological structures, some of which have been undocumented.

The study involved exploration of archaeological structures in Srirangapatna and virtual reconstruction of the Srirangapatna Fort, in Karnataka's Mandya district. The research team said such virtual reconstruction could be of great help for conservation and restoration of the structure.

The findings of the team – comprising Ekta Gupta, Sonia Das and M B Rajani – have been published in the journal 'Indian Society of Remote Sensing' in its January edition.

"This [Tipu's Lalbagh] palace is marked in an old map of the 19th century, but today it is totally forgotten and unknown. Using the high-resolution image, we found positive crop marks [dense vegetation] in a geometric shape that can be correlated with the shape marked in the old map," the team said in the journal.

"Apart from the location of the old palace, we have also identified positive crop marks, probably delineating the boundary of the Lalbagh. Presence of this square crop-mark with axial-paths from the palace structure in the middle resembles the typical Persian Charbagh architecture [four-part garden with a monument at the centre]," the article noted.

BASEMENT FOUND

Through a ground survey, they found the basement of the palace, which was completely covered with vegetation. They also found two 'kabutarkhana' (dovecotes), indicating the entrance to the Lalbagh palace. "The southern one is erect while the northern one has collapsed. The palace is also marked in one of the old maps of 1799.

There is a painting titled 'The Garden Gate, Lal-Bagh, Seringapatam' in Bangalore museum, showing the entrance of the palace flanked by the two dovecotes," said Gupta.

According to the researchers, in order to provide ample water to the gardens, Tipu established a good network of canals in the island and this network is well-marked in the old map and has been traced in the satellite images. "We found that most segments of old canals are still being used for irrigation, but there are a few segments that are now buried under sediments, displaying a positive crop mark [dense vegetation] on satellite image," said the team.



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EIGHT PATTERNS

According to the findings, eight geometrical patterns, which could be potential archaeological sites, were identified on the satellite images and validated on field. Among the eight, one was the tomb of Gulam Ali and two were old temples, probably from the Vijayanagara period. The researchers said that on ground, these three sites were found to be in a dilapidated condition.

Among the remaining five sites, three were vegetation-infested Tipu's armouries, a hanging bridge that was also completely smothered by wild weeds and the last one was ruins of a building, which could belong to the 19th or 20th century.

"Though Tipu's armouries and the hanging bridge are protected sites, they were not maintained, and hence visible on the satellite image as positive crop-marks. Here, remote sensing and GIS not only identified unexcavated/forgotten sites, but also demonstrated how they can be used to monitor maintenance of heritage sites," said Rajani.

Through remote sensing analysis and old maps, the team also identified one peculiar, round feature on the south-eastern corner of the Srirangapatna Fort.

"This feature looks like a bastion on old maps. On satellite image, it shows positive crop marks of concentric circles that raised our curiosity and led us to investigate it on ground. Ground survey revealed that this round feature is disconnected from fort by a deep moat and seems inaccessible from inside of the fort. Though a few old maps mark a round shape at this location, they don't mention what it is. No information is available so far about this strange feature in published literature. It is very difficult to interpret what purpose this feature would have served since it is imperceptible because of thick vegetation growth over and around it," said Das.

The researchers said they also found one "intriguing negative crop mark". While investigating this feature on the

ground, they found two memorial stones with this inscribed: 'The Stone is Erected on the boundary line of the Esplanade AD 1817', exactly on the crop marks. "Location of this esplanade could raise new questions about Tipu's war strategies, as esplanade are said to be made by Tipu during the preparation for fourth Anglo-Mysore war," they added.