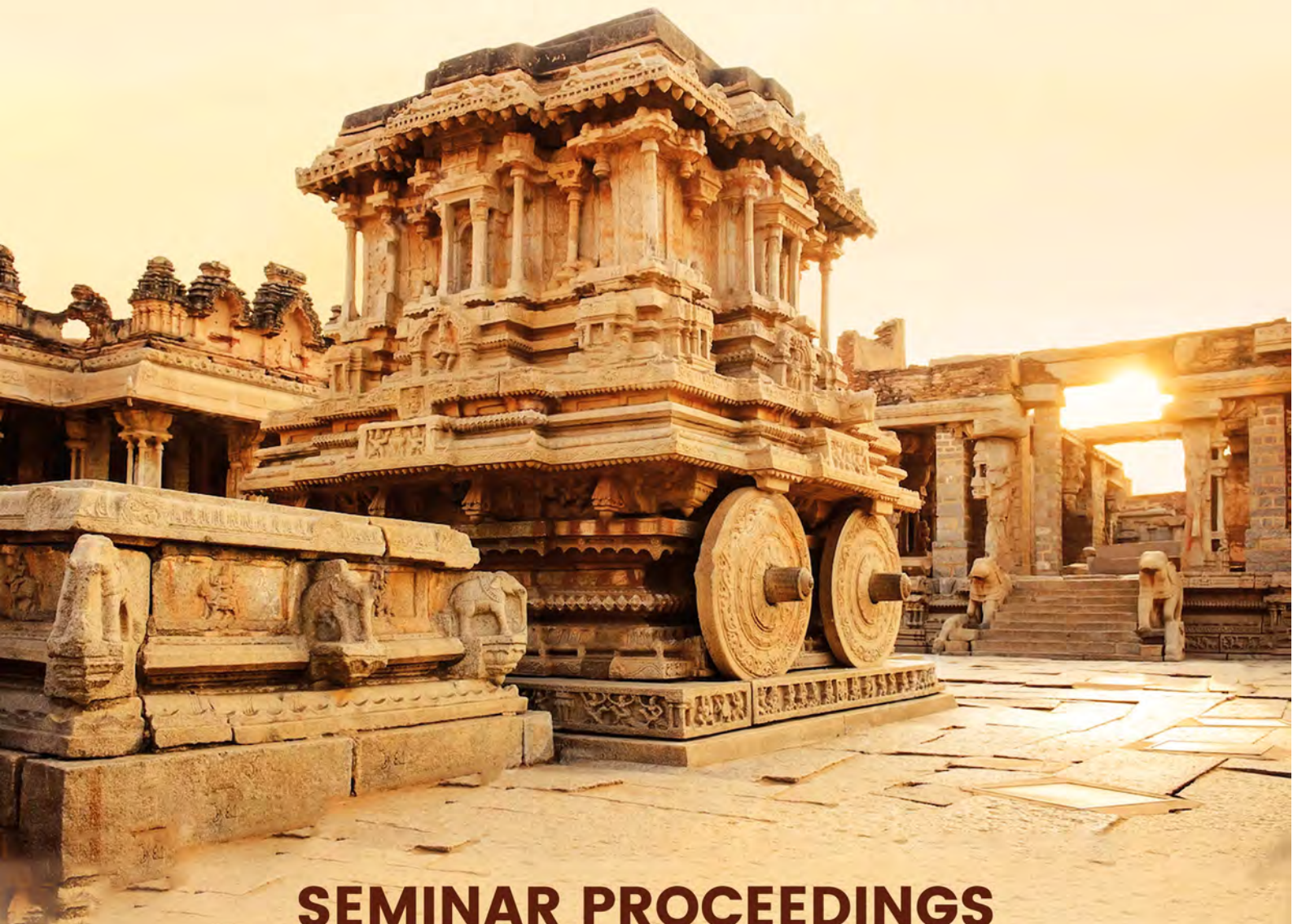


Three-day National Seminar on

Historical Development of Indian Temple Architecture and Construction Styles



SEMINAR PROCEEDINGS

Amrita Vishwa Vidyapeetham, Bengaluru Campus
08 - 10 April 2022

EDITOR

Dr. Manish Rajan Walvekar

ORGANIZED BY

Amrita Darshanam

International Centre for Spiritual Studies (ICSS),
Amrita Vishwa Vidyapeetham, Bengaluru campus

IN ASSOCIATION WITH

Indian Council of Historical Research (ICHR), Gol

Sisupalgarh of Odisha: A Smart City of Ancient Kalinga

Prof. Rabindra Kumar Mohanty

Former Professor

Department of Archaeology

Deccan College, Pune

Prof. Monica L. Smith

Professor

Cotsen Institute of Archaeology

University of California, Los Angeles

Today Bhubaneswar, the Odisha State Capital, is being celebrated for being one of the first Indian metropolitan areas to be granted the “First Smart City” label. The “Smart City Mission,” launched by India’s Ministry of Urban Development, focuses on the urban form as a place of efficient deliverables of food, water, electricity, and transportation etc..

But the concept is not new; in fact one can say that the “smart city” concept was born over 2,500 years ago, and that too in an area that is on the very outskirts of present-day Bhubaneswar. We are speaking of the ancient city of Sisupalgarh, first studied by Prof. B.B. Lal in 1948 and constituting one of the first extensive excavation projects of independent India. More recently, we have had the privilege of conducting archaeological research at the site for the past fifteen years, which has yielded many new and exciting results for the study of the ancient Indian past. Working with an international collaborative team of researchers, students, and local laborers, we have excavated at a number of areas within the site, as well as conducting a thorough survey and mapping of extant remains.

To begin with, Sisupalgarh has among the most impressive remains of any archaeological site in India, with an outline of the ancient city walls visible from space. The site is also the most regularly-laid-out city of ancient times in India, a perfect square that was occupied starting in

the mid-first millennium BC in a configuration that recalls some of the subcontinent's most ancient treatises on statecraft, the Arthashastra. In that document, which makes recommendations about administration, there is a lengthy discussion about the ideal form of the city; among all of the known Indian cities, Sisupalgarh most closely approximates this ancient literary ideal.

In each of the four sides of the ancient city wall there are two gateways, resulting in a total of eight gateways equally spaced around the city that would have served as convenient points of access. The ancient gateways are not simply openings through the rampart, but are marked by elaborate flanks of construction that would have towered over the inhabitants and those visiting the city. Like the toll roads and entryways of today, the ancient gates conveyed both the grandeur of the city and a sense of control over the products that farmers and merchants were bringing in for the city's consumption.

Our archaeological investigations showed that inside the city walls, there were also straight roads coming in from the eight gateways, dividing the city into nine square plots that were like ancient neighborhoods. This type of city-planning is very reminiscent of today's planned capitals such as Chandigarh (and soon, Amaravati, the new capital of Telangana State). Within each of the larger blocks there were small lanes and by-ways that would have been the daily passageways for neighborhood residents. Through those passages, we can imagine not only the passage of goods but also the lively processions of weddings and celebrations and the daily games of children.

At Sisupalgarh, towering monoliths at the center of the site proclaim the enigma of an ancient ceremonial structure, with single stone pillars made of the fragile laterite stone that is the ubiquitous building material till today in the region. "Smart cities" also have a religious component because of the importance of ritual in community life; especially in the Indian context, we would expect ritual activities to be a consistent part of urban activities. During the course of our research, the discovery of a decorated Buddhist railing-pillar which was exactly similar to the architectural elements found at Buddhist sites elsewhere in India such as Sanchi and Bharhut.

Other aspects of our research suggested the ways in which the city incorporated religious activities. Excavations on the exterior of the city wall revealed stone circles that were very reminiscent of "stupas" although no reliquary deposits were found. In the Odisha State Museum, a statue of a Jain Tirthankar, found long ago, is affixed with the label "Sisupalgad"

indicating that like Buddhism, Jainism had a close relationship with the lived atmosphere of the ancient city.

Smart Cities of today are encouraged to have “innovative use of open spaces.” Smart cities of ancient times had these too, in which open spaces could serve as market places, gathering places, and spaces for play and contemplation. Our research program detected a large area of rectilinear space in the central pillar area, indicating that the structures of this ritual area would have been surrounded by a precinct that might have held ceremonies and public events.

Many “Smart City” initiatives of today focus on infrastructure and the promotion of a harmonious human-environmental interaction. One recommended feature is “rain water harvesting,” a concept that we also see in the ancient city of Sisupalgarh with its grand central tank in the middle of the site, as well as tanks on the interiors of the four quarters/corners of the site. “Pedestrian friendly pathways” foreseen for today’s smart cities are also incorporated into ancient Sisupalgarh, with its broad principal avenues that would have been much larger than what would have been required for the ox carts of the past.

Cities today are “smart” when they incorporate a streamlined approach to provisioning and to waste management. The people who live in cities have a special relationship to the surrounding countryside, because cities need food, water, and people to undertake civic works and other activities. At the same time, people in ancient times seem to have found cities attractive and hospitable because of the many services, opportunities, and economies available within the urban site. Just as today people come into cities for the possibilities of education and better-paying employment, ancient cities also had a greater range of activities compared to the countryside evidenced from the cultural remains.

Ancient cities also had a special relationship to food and foodways. Today, those of us who are city-dwellers can hardly imagine growing all of our own food; while we may have gardens for herbs and vegetables, we still rely very much on markets for staples such as rice, bread, and pulses. In our work at Sisupalgarh, we were interested to see how the ancient residents of the city solved the dilemma of food consumption given that they were unlikely to also be full-time farmers. We were able to find some evidence of food consumption through the archaeological remains of fish bones and charred rice grains, two aspects of diet that are still prevalent.

Odisha has always been famous for its rice-based cuisine, and the state has the highest per-capita rate of rice consumption in India: in rural areas, people eat an average of nearly a half-

kilo per person per day! Archaeological research at the site of Sisupalgarh itself reveals that the remains of rice were very abundant in ancient times as well, as seen in charred grains that we could recover through water-sieving the ancient deposits. Rice-husk impressions also were recovered on bricks and tiles, indicating that the production of food and the production of clay-based architectural elements were likely to have been carried out in the same locales in the rural settlements that supplied the ancient city.

Smart cities also encourage the holistic inclusion of all sectors of society, keeping in mind that all types of work are mutually dependent, from the lofty work of administrators to the daily and necessary acts of sweeping, cleaning, and food transport. We know that representations of women and men were both equally visible in the religious sculptures of the surrounding region, for example at the nearby cave site of Udayagiri, where male and female sculptures decorate the ancient caves in equal proportion. Our excavations have not resulted in the recovery of any skeletal material so we are not able to make precise statements on the relative health of the different genders.

Although there were challenges in identifying the work of men and women in the past, our project worked to incorporate equal access to work in the present. One of our strategies of project management was to incorporate both women and men in the field crews and amongst the staff. It may be of interest that both in the US and in India, the majority of students undertaking archaeological studies nowadays are female, a factor that led to a large number of young women coming to the project for their MA and Ph.D. field training. Among the village workers, our interest in employing women was initially met with a bit of resistance from the traditionally-minded village men, but women responded enthusiastically and came to work in large numbers in the excavations. Our impact on the village was considerable, as the excavation seasons employed up to 80 local workers at a time for digging, carrying earth, and washing the artifacts.

Nowadays Sisupalgarh is poised to become part of the city of Bhubaneswar in earnest, given that the ancient city and the ramparts are now surrounded by modern housing. Yet our archaeological and architectural research illustrates that Bhubaneswar's incarnation as a "Smart City" is part of a long history of planned investments in the urban form. The very first such expression of the smart city was in the ancient settlement of Sisupalgarh. The second was seen in the development of the "Temple City" of Bhubaneswar, with its many religious structures starting in the 6th century AD. These include Parasurameswar, Mukteshwar, Rajarani and

others here. Bramheswar and then eventually the towering and massive Lingaraj Temple. The third incarnation of the urban form was the development of Bhubaneswar as the capital of Odisha state, replacing Cuttack in 1948. So we can say that the current incarnation as “Smart City” is actually the fourth time in history that the area has been the focus of purposeful development. All of these investments are still visible today and are very much worth celebrating and preserving together as the smart cities of the past become the smart cities of the future.

1. It was one of the major cities in Ancient Kalinga.
2. Sisupalgarh and the other smart cities in Kalinga and their organization must have played a major role in defying and deterring the conquest by neighbouring Magadhan ruler till the time of Ashok.
3. The impact of Kalinga war by Ashok in 269 BC was not only devastating but brought a tremendous change in cultural-religious scenario not only of greater India but also in South East Asia.
4. The Earliest occupation and layout of the City can be dated to Early part of 8th. C.BC. according to several C14 date obtained.

Some Figures:



Fig. 1. Excavation at Sisupalgarh, Next to Prof. B.B. Lal's Earlier Excavation in 1948.



Fig.2. Exposed buried pillar known as 13. Exiting pillar area.



Fig.3. Excavation near Pillar area of Dormitories like structures.



Fig.4. Intensive Survey and Documentation of the site.

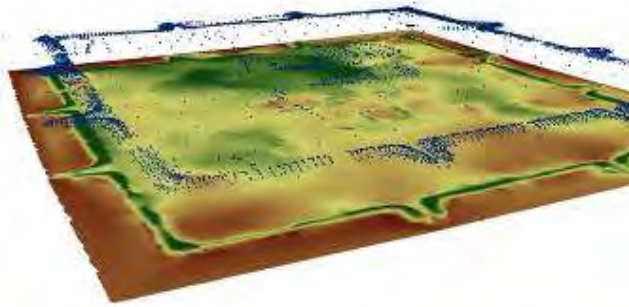


Fig. 5. Contour and layout of the Sisupalgarh a three dimensional projection with gateways and elevated landscape within the city.



Fig.6. Exposed House remains and participants in Excavation in 2007-2008



Fig. 7. Example of several Terracotta objects found at the site during excavations at different localities.

Reference: Important Publications on Sisupalgarh and other smart cities of Kalinga

Books

-2009 (with Monica Smith). Excavations at Sisupalgarh, New Delhi: Indian Archaeological Society.

Published Research Papers

-2005. (with M. L. Smith). Excavations at Sisupalgarh 2004-2005, *Man and Environment*, 31(1).27-32

-2007. (with M. L. Smith and T. Mateny A. Donkin and G.A. Greene). Archaeological Research at Sisupalgarh 2007: An Early Historical City in Orissa, *Puratattva* 37: 142-154

-2007. (with M. L. Smith and T. Mateny). Preliminary Report of the Excavations at Sisupalgarh, 2005-2006 *Man and Environment* 32(1)57:66

-2007. (with M.L. Smith). A brief Report of the Sisupalgarh excavation, *Bulletin of Deccan College Post Graduate and Research Institute* 66-67:191-198

-2007. (with M. L. Smith). New Investigations at an Old City: Research at Sisupalgarh, India. *Backdirt (Annual Report of the Cotsen Institute of Archaeology)*, Spring , pp. 54-59.

-2009. (with Monica. L. Smith). Excavation at Sisupalgarh 2008, *Man and Environment* 43(1): 47-56.

-2009. (with Smith, Monica. L.). Excavation at the Ancient City of Sisupalgarh, *Backdirt* 60:54-59, UCLA

-2010. (with M. L. Smith). Investigations at the Early Historic City of Sisupalgarh, India 2005-07, *Proceedings of the 19th meeting of the EASAA*, vol-II: 337-344.

2013. (with T. Thakuria, T. P. Padhan, R. K. Mohanty and M. L. Smith). Google Earth as an Archaeological Tool in the Developing World: An Example from India, *Society for American Archaeology: Archaeological Record.*, 20 -24.

2013- (with Monica L.Smith) Talapada: An Ancient South Asian town built “on Spec”? , *Backdirt* p. 150-151

- 2013- Indian Imported Pottery in *Mantai. City by the Sea* (ed. John Carswell, Siran Deraniyagala, Alan Graham). pp. 213-227
2013. Mohanty, R.K, Monica L Smith, and Tilok Thakuria Excavations at Sisupalgarh 2009: Northern Gateway and Activity Areas Outside the Rampart. *Man and Environment* 38(1). pp. 55-65.
- 2013- (with B.B. Lal and Monica L Smith) Sisupalgarh, in *The Texts, Political History and Administration till c. 200 B.C.*(ed. Dilip Chakravarti and Makhan Lal) III: 343-378.
- 2013- (with Monica L.Smith) Excavation and Geophysical Survey at the Ancient Early Historic Town of Talapada, *Man And Environment* . 39 (2).pp.53-63.
2014. (With Monica. L. Smith), Research at the Ancient Town of Talpada, India 2014. *Backdirt 2014*, University of California , Los Angeles USA. pp.94-97.
- 2016-Archaeological Investigations at the Early Historic town of Talpada-2014(with Monica L.Smith and Sikhashree Ray) Purattava no. 46 , pp156-167,Plate pp.28-31.
- 2016 -Excavation at the Early historic town of talapada, Odisha- 2015(with Monica L. Smith, Sikhasree Ray and Kunil Kumar Behera) Journal of Indian Ocean Archaeology, no.12, PP. 154-165.
2016. (with Monica L. Smith), Archaeology at Sisupalgarh:the chronology of an Early Historic Urban Centre in Eastern India , South Asian Archaeology and Art 2012, Vol.2. PP..683-696.
- 2017-(with Monica L. smith, Sikhashree Ray, and Kunil Kumar Behera) “Excavations at the Early Historic Town of Talapada, Odisha 2015.” Journal of Indian Ocean Archaeology.Vol.12.PP.154-165.
- .2017- (with Monica L. Smith) Ancient Composite Materials: An Experimental Approach to “ Artificial Laterite” from Early Historic Population Centres in Odisha; *Rethinking of the Past (A tribute to Professor V.N. Misra)*, (Eds. Sushama G. Deo, Andre Baptista and Jayendra Joglekar), ISPQUS. Pune. Pp.215-222.