

11. Heritage Management and Public Archaeology in the Context of Indian Prehistory

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Abstract

India's rich and diverse prehistoric archaeological heritage is currently under threat, owing to rapid infrastructure development coupled with a low public awareness of the topic. At present, a general approach in India has been a focus on monuments and built heritage, rather than the fragile prehistoric past relating to the earliest occupation of South Asia, a phenomenon that we have termed the 'Taj Syndrome'. Here, we discuss case studies from Tamil Nadu, South India, where our project attempts to unite research goals with those of policies for site conservation and public archaeology. We discuss the following aspects: 1. research programs including excavations at Attirampakkam and studies at other prehistoric sites in northern and southern Tamil Nadu; 2. use of satellite remote sensing and field investigations to address research questions and for developing strategies to map impacts at prehistoric sites; 3. development of policies for site-conservation and protection; 4. predictive location modelling for rapid discovery of new sites; 5. public archaeology programs involving children and teachers to develop an interest in and awareness of archaeology; and 6. development of modules to train university students and young faculty in new approaches in the study of prehistory archaeology, and 7. the positive and negative impacts of the involvement of amateur enthusiasts and the wider community in archaeology. We conclude by emphasizing the need for holistic programs in South Asia, combining research with public awareness programs to ensure development of alternate conservation strategies. We stress the urgent need for legislations concerning impact assessment prior to any minor/major development project, adapting from patterns adopted elsewhere in the world.

Keywords: Heritage Management; Public Archaeology; Prehistory; Attirampakkam

Introduction

As we write this note, much of India's prehistoric heritage is being destroyed by a combination of factors ranging from rapid infrastructure development to a relatively low public awareness of what such sites and artefacts look like (Pappu 2006). Historically, in India, a greater focus has been laid on conservation of built heritage: monuments, works of art and architecture that have a distinct visibility in the landscape, and are interwoven into the socio-economic, religious and political contexts of communities (Pappu 2006). In contrast, the fragile prehistoric heritage, marked by lithics, fossil fauna, occasional burials or other features, eroding from, and buried within ancient sediments, are less visible across landscapes, and lack a significant cultural or emotional connect with local communities. We have previously termed this neglect of sites marking the earliest occupation of South Asia as the 'Taj Syndrome' (Pappu 2006). In recent years, research in Indian prehistory has resulted in new interpretations and discoveries raising its significance in the context of global issues in prehistory (Akhilesh *et al.* 2018; Paddayya and Petraglia 1997; Petraglia *et al.* 2007; Pappu *et al.* 2011a; Mishra *et al.* 2013). Despite this, prehistory continues to be neglected in terms of building programs that range from research to awareness creation and heritage management planning. It is this theme that we focus on here:- a call for developing comprehensive projects that begin with research and culminate in public awareness and outreach. We discuss one such example, drawing from our own research projects in Tamil Nadu, where we attempted to unite research goals with those of policies for site conservation and public archaeology. We emphasise the need for holistic programs in South Asia, combining research with public awareness in order to ensure development of alternate conservation strategies. We stress the urgent need for legislations concerning impact assessment prior to any minor/major development project, adapting from patterns adopted elsewhere in the world. We discuss our work under three major integrated structures as noted below.

The Research Component

The project, *Prehistory and Palaeoenvironments in Southeast India*, aims at investigating key questions on the nature of prehistoric occupation with respect to the changing Pleistocene environments;

developing a chronology for sites, investigating long-term behavioural strategies drawing on studies of lithic assemblages, understanding key issues in lithic technology and reduction sequences through time, amongst other questions on the timing and nature of hominin dispersals across South Asia. This multidisciplinary approach, in collaboration with various research institutes and publications (Akhilesh *et al.* 2018; Pappu *et al.* 2009, 2010a, 2010b, 2011a, 2011b; Pappu and Akhilesh 2019), was geared to address specific research questions, and to allow for long-term evolution of ideas as the project progressed over time. Excavations were initiated at key sites to address specific questions of the project. Thus, long-term excavations and research at Attirampakkam (henceforth ATM), led to the investigation of the some of the earliest occupation horizons in South Asia. Acheulian assemblages at ATM (Akhilesh and Pappu 2015; Pappu 2011a; Pappu and Akhilesh 2019), were exposed in test-pits and trenches excavated across the site. The Acheulian horizons, in excellent state of preservation, occur in fluvial silt-rich clay (layers 6 and 8), with one gravel interlayer (layer 7). The sequence constitutes part of a small Pleistocene floodplain consisting of suspended load material sourced locally by the Cretaceous shale outcrops in the catchment (Pappu *et al.* 2011a). The Acheulian reduction sequence at ATM is characterized by a preference for tools on large flake blanks detached using a range of giant or large core technologies (Akhilesh and Pappu 2015). The varied reduction sequences are primarily related to late-stage biface thinning at the site (Akhilesh and Pappu 2015). The Acheulian horizons are disconformably overlain by progressively younger strata (Layers 5 to 1). Luminescence dating of these artefact-bearing layers has shown that phasing out of the Acheulian culture and phasing in of a Middle Paleolithic culture occurred 385 ± 64 ka, i.e. much earlier than conventionally presumed for South Asia. The Middle Paleolithic culture at ATM endured until 172 ± 41 ka (Akhilesh *et al.* 2018) and are marked by significant behavioural transformations reflected in changing lithic technology and assemblage composition. Ongoing experimental studies (Akhilesh and Pappu 2015) and microwear analysis of lithics are aiding in reconstructing past behavioural changes at this site. Palaeovegetation data from phytoliths collected from the site revealed fluctuating

vegetation through time reflecting varied local environments, and consistent with palaeoclimatic data derived from rock magnetic studies (Premathilake *et al.* 2017; Warriar *et al.* 2011). At ATM, however, because of lacunae in the depositional record the stratigraphy failed to document crucial phases of the Late Acheulian (between ~1 Ma-380 ka) and later (post-74 ka) MP (Akhilesh *et al.* 2018). It was hypothesized that the stratigraphic gap between the early Acheulian and early MP could be filled by locating Late Acheulian sites in the vicinity of ATM. Following extensive surveys, one site selected for this was Sendrayanpalayam where currently excavations are ongoing, resulting in important data on the terminal Acheulian.

In addition to this, we initiated projects of investigating the nature of microlithic sites in association with the *Teri* red sand dunes in southern Tamil Nadu. A test-pit at the site of Sawyerpuram, and regional surveys of sites in this region (Akhilesh *et al.* 2017), led to the discovery of numerous microlithic assemblages that are currently under study. The significance of this work lies in the potential for comparative studies with Sri Lankan microlithic sites as also in terms of situating them in the context of discoveries in northern Tamil Nadu and elsewhere in South India (Akhilesh *et al.* 2017 and references within). Along with excavations, a major aspect of the research project involved regional surveys. An area of around 8000 km², comprising basins of the rivers Arani, Kortallaiyar, Cooum, Adyar, Palar and Cheyyar (Chatterjee *et al.* 2017; Pappu *et al.* 2009, 2010a, 2010b, 2011b), and further south in the basins of the river Tambraparani were initiated (Akhilesh *et al.* 2017). Here, in addition to field surveys, use of a satellite data at differing resolutions were used not to research site locations and distribution and other related questions, for predictive locational modeling to locate new sites, and to develop a comprehensive heritage management plan for this region (Pappu *et al.* 2009, 2011b). The research component culminated not only with data collection but also with devising suitable storage methods for prehistoric lithics (Pappu and Akhilesh 2015).

Impact Assessment Component

In addition to the research component, we initiated a program to utilise both field surveys and satellite data to measure impacts caused

by various sources (infrastructure, water bodies, etc., see Pappu *et al.* 2009; 2010a, 2010b, 2011b for details) to accurately measure the state of preservation of prehistoric archaeological sites. This was part of a larger heritage management plan for prehistoric sites. This resulted in a comprehensive database for sites (Pappu *et al.* 2009, 2010b) that forms the basis for planning further policies for managing at site or landscape scales. Key aspects of destruction involve agriculture, in particular mechanised cultivation, infrastructure development, water body widening and construction, and associated modern quarrying activities. In addition to mapping impacts at sites at varying buffer radii, we defined impacts at what we designated as ‘prehistoric zones’ to suggest strategies ranging from sites to landscapes. Overlying cadastral maps aided in defining land-ownership details for specific prehistoric sites (Pappu *et al.* 2010a,b). Following consideration of impacts suffered and scientific significance, remedial measures were also proposed (Pappu *et al.* 2009, 2011b). This proceeded along with adoption of predictive locational modelling strategies to rapidly predict areas where new sites may be found. Following testing of this model and its success, we are now able to expand this to other regions to enable speed in identifying potential new sites (Pappu *et al.* 2010b). Together, these form the basis for planning for heritage management of prehistoric sites in this region.

Public Outreach and Capacity Building Component

One of the key areas of our project involves public outreach. For this purpose we established a small children’s museum in a school (Pappu 2000), with subsequent expansion of the same in our Centre (<http://www.sharmaheritage.com>). This is based on the theme of: ‘Create, Connect and Communicate’. This involves creation of a unique environment to enhance children’s learning experiences in the field of Indian heritage, to encourage creativity and skill development and enhance imagination through well-conceived displays, exhibits and learning modules; to connect scientists and children through interaction with research scholars at, and visiting the Centre, and to communicate cutting edge research in Indian prehistory and other aspects of archaeology and past environments to children, teachers, and other interested groups. To achieve this aim, we began with

conducting workshops for children (ages from 5 years and above) in the fields of prehistory, human evolution, evolution of agriculture, early civilizations, ancient metallurgy, pottery through time, lithics and other ancient craft traditions, amongst other topics. Modules follow a definite structure designed to suit the age of the child, school context and background, and language preference. They include a short introductory talk with a range of hands-on activities designed to bring alive key aspects of the topic concerned. At every stage, interaction with experts is encouraged. Thus, for example, a ‘mock-excavation’ will be integrated with questions designed to raise an awareness of how archaeologists excavate, as also ways in which artefacts/fossils, etc. are interpreted, both on-site and in the laboratory. Topics related to human evolution involve observation of replica fossil casts and discussion on topics related to this theme. Introduction to stone tool technology involves demonstrations of knapping tools and hands-on knapping, with experts (Dr. K. Akhilesh) under careful safety protocols. Activities involving tool-use on different materials is also included in the program. Modules related to rock art, may for instance, include themes of story-building, making suitable paints and brushes and depicting and discussing ideas. At every stage, conveying accurate information and encouraging creativity are significant aspects of the program. Special care is taken for inclusive workshops with challenged children participating in all activities. In addition, multiple disciplines, such as mathematics, geology, and natural sciences are integrated into the modules to stress the interdisciplinary nature of the subject. Palaeo environmental workshops are conducted through talks by experts, and by hands-on activities regarding, for example, modelling how fossils are formed, or examining ancient pollen through microscopes. Every workshop concludes with highlighting the importance of conservation, proper behaviour at prehistoric and other archaeological sites and a discussion on how children can help in bringing about an awareness of India’s heritage (Fig.1). This also involves publication of children’s books (<http://www.sharmaheritage.com>).

At the other end of the spectrum, are workshops for college and university students at the undergraduate level; followed by more



Fig. 1. Activities conducted during workshops on human evolution, prehistory and rock art (Source: Sharma Centre for Heritage Education).



Fig. 2. Capacity building for university students and faculty and invited workshops showing: A-D. Workshops on prehistory and lithic studies, and field trips, conducted by the Sharma Centre for Heritage Education; E-H. Invited workshops conducted in India and abroad. (Source: Sharma Centre for Heritage Education).

intense ones for postgraduate, doctoral and postdoctoral students, early career faculty (Fig. 2). The latter series are primarily based on prehistory and lithic studies, and held under the Robert Bruce Foote series, or conducted for the benefit of students from a range of disciplines such as those under the INQUA-HabCom program of workshops on 'Prehistory, plants and people' (Akhilesh *et al.* 2014). Further, traveling workshops for children and university students, based on invitations from other Institutes, Universities, government departments were conducted in Arcot, Udaipur, Nagaland, Delhi, Bhopal, Colombo, Ruhuna and South Korea amongst other places (Fig. 2).

Conclusion

The combination of research, management and public outreach, is one way in which large projects may be structured to enable not only scientific outputs, but also to suggest potential strategies for conservation to the relevant authorities and to implement public outreach programs for enabling long-term conservation. Capacity building for students must be involved in projects in various ways. Our projects presented here, suggest one of many models by which research programs in prehistory may be planned and implemented to varied extents. While not infallible, and while unable to control or stop the destruction of sites, such projects serve to raise some awareness of this neglected subject to as wide a reach of stakeholders as possible. It is hoped that in future, more extensive conservation may be implemented in the field, through collaborative efforts of Institutes, government bodies and local communities. Prehistoric archaeology in India is in a crucial phase today. On the one hand, ongoing research is serving to highlight the significance of India on a global scale (Akhilesh *et al.* 2018; Pappu *et al.* 2011a). On the other hand, the scale of destruction of sites is immense. Lastly, we touch on the topic of tourism at prehistoric sites. In our view, the fragile nature of sites is not conducive for tourism, as this has led to random collection of artefacts by students, and by the interested public, footfall and picnics leading to trampling of artefacts and damage of sediments, and dangers of ancillary infrastructure activities. It is suggested that reconstructions of important sites may be made at local museums, or dissemination of information may be made through government offices, e.g. mini-

museums at the district collector's headquarters or other public spaces. Through comprehensive holistic projects and implementation of impact assessment legislations, multiple organisations must work together to conserve sites and enable future generations to appreciate and research India's prehistoric heritage.

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