# PRESENTATIONS

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# Spatial Analysis of Campsites from Thar Desert of Sindh Pakistan

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## Introduction

While conducting surface archaeological projects in Indus Valley, the main focus of archaeologists remains over the mound and or those surface scattered sites, where the surface of given area is completely covered with artifacts. Therefore, it is assumed that the spots where cultural material is lying in exceptionally thin concentration have been completely ignored. However, during recent surveys in Thar Desert, the Department of Archaeology, Shah Abdul Latif University, Khairpur, has documented every type of evidences that carry empirical and interpretive potential in archaeology (Fig. 1) After the preliminary examination, the discovered sites have been categorized and explained in terms of towns, villages, and campsites (Mallah 2000, Shaikh *et al* 2001). These categories are based on distinctive characteristic revealed at those sites. Among these categories, I have focused on the campsites which are generally neglected because of the meager presence of physical cultural material. To date, a total of 28 campsites have been recorded from Thar region (Table: I). More sites are expected in future research. These campsites have been examined within spatial archaeological approach. This approach provides both tools and perspective to comprehend the actual goal of reconstructing the past human activities, artifacts, physical infrastructure, the environment and the association and interaction of all these variables (Clarke 1977:9). Keeping these variables of spatial archaeology in mind, I have discussed the definition of campsites (Plog *et al* 1978, Plog and Hill 1971, Fuller *et al* 1976), geomorphology of the area (Pithawala 1959; Panhwar 1969; Mallah 2000), locational strategy and length of occupancy of the campsites (Allchin 1994; Mallah 2000). Finally, I have provided functional analysis and artifact deposition of campsites as determined through the archaeological remains and enthnoarchaeological observations in the area of Thar Desert.

In result, I find out the importance and vitality of these low density artifactual locus (campsites) of archaeology. I emphasize here that these types of sites should be documented in each surface archaeological project and should be treated equally without any quantitative bias, as they furnish and play important role in establishing settlement hierarchy of any given region of the World. Nevertheless, I argue here that the campsites are fundamental part of settlement system as they constitute the lower segment of the prehistoric settlement hierarchical system in the Greater Indus Valley civilization as well.

## Definition of Campsites

Archaeologists have different views and notions about the definition of an archaeological site. For instance, Plog and Hill of the Southwest Anthropological Research Group (SARG) have explained a site as "any locus of cultural material, artifacts, or facilities with as artifact density of at least 5 artifact per square metre" (Plog and Hill 1971:8). Similarly, Fuller, Rogge, and Gregoins of the

Arizona State Museum have used artifactual quantity criterion and have argued that a site must have more than one definable locus of past human activity and must exhibit definable limits in time and space (Fuller *et al* 1976:68). These definitions are limited as they emphasize upon quantitative factor; if this quantitative bias is left out than the archaeologists would agree that any spot/place where we notice and recover the remains of past human activity within a given ecological setup; is known as archaeological site and let the density, diversity and the type(s) of the remains (artifacts) rectify and determine the nature and status of site(s) under investigation.

During the survey of Thar Desert two types of surface scatters were encountered, (a) thin scatter (Fig. 2), and (b) dense scatter (Fig.3). The architectural structures are absent at those surface scatters. By dense scatter, I mean that the artifacts are present on the ground constitutes a thick layer of the cultural material. The kilns, burnt spots and other features have been recorded at such places/ sites. By thin scatter, I mean that the cultural material is sparsely scattered over the ground in such a manner that each artifact is lying separately at some measurable distance. Thus, the dense scatter cultural material places are categories as 'village sites' and the thin scattered cultural material places are known as 'campsites'.

## Geomorphology of the area

The campsites have been recorded from Thar Desert area which occupies entire portion of the eastern Sindh. Geomorphologically, this desert is divided into two portions such as "Pat" (Flat) and the "Thar" (Pithawala 1959; Panhwar 1969). The present research was conducted into "pat" area designated here as "Upper Thar". The Upper Thar consist of two distinctive geographical features like (a) scattered sand dunes (Fig.4), and (b) alluvial soil valleys within those sand dunes (Fig. 5). Both of these features provided divers subsistence resources.

The Hakra river flowed from this region and joined Nara Nadi in between Salehpat and Sorah. It is argued that the perennial flow of Hakra was ceased around 1226 A.D. However still getting water from Indus and other rivers during high flood season (Panhwar 1969; Mallah 1994; 2000). The presence of white sand and freshwater shells in and around the valleys suggested large amount of water flow in this region (Mallah 2000:13). This annual floodwater flow is locally called *Leet* or *Noriet* and was collected in the lakes. These lakes were supplementary source of their economy as exploiting *Pann* (reeds) *Narr* (cans) *Lao* (Tamarisk) besides being a source of fish, birds and a sanctuary of wild game.

After modern barrage system the *Noriets* were stopped and lakes were dried creating many new flat valleys very suitable for agricultural purposes. During our several trips in the region we documented sites at slopes and foot areas of sand dunes and at these alluvial valleys. The documentation revealed a significant locational pattern.

## Locational strategy

Throughout the entire exploration of Thar desert, common characteristic of the location of the settlements was noticed. This locational behavior is intentionally selective and strategic because these spots are (a) accessible for both animals and humans, (b) availability of rich and diverse subsistence resource niches, (c) a game observatory, and (d) inhabitable spots in the desert climate.

The majority of the settlements were located on the southern slopes of sand dunes, which are "concavoconvex" (Butzer 1982:60) in cross-section when combined with open valleys in front of them (Fig.6). The soil at those spot was relatively compact where artifacts were spread over the surface. However, the sites have been noticed on the flat tops of the sand dunes and other suitable places as well. One factor was common that all sites have easy access to the valley in front of them, where alluvial soil and different kind of vegetation such as *Knadi*, *Khabar*, *Kirir* and *Phos* were commonly available (Fig. 4, 5).

Ancient river Hakra has made several flood channels watering almost every valley in their catchments area and creating many sweet water lakes. These sweet water lakes might have provided subsistence resources and could have been utilized for grazing herds, collecting wild fruits, hunting wild animals, storing drinking water, fishing, and cultivating crops. However, the muddy and swampy environment in some of the valleys may have been a breeding ground for year-round mosquitoes, creating problems for potential inhabitants and their herds, especially their goats and cattle. The traditional protection from mosquitoes was to maintain a smoking fire from dusk to dawn. Ash mounds reported from Ganges valley reflect a similar strategy for mosquito protection.

Winds play a major role in the Thar, and during summer the southern winds were most common. These not only shaped the character of the shifting sand dunes, but also provided relaxation to the inhabitants. Winds changed the shape of sand dunes, shifting the sand dunes northwards. As a result, the northern sides of the dunes become high and steep. In contrast, the southern sides were generally gentle slopes providing easy access for humans and their herds (Fig. 6). This probably explains why the residents of Thar Desert generally decided to live on the southern slopes of the dunes.

## Length of occupancy of the sites

There are many sites with cultural material associated with many periods, for example the site of Unner. This site is on a low hill located along the western fringe of the Rohri hills. The top of the Unner site is covered with Early Palaeolithic and Early/Middle and Late Palaeolithic tools; Harappan chipping floors are also abundant (Allchin 1979 as cited by Biagi and Cremaschi 1987:33). Similarly, these sites of the Rarr Waro and Choondiko contain some stone tools related to the Mesolithic period as well as pottery associated with the Hakra and subsequent periods. One reason for residents visiting the same spot over the centuries might have been of the availability and diversity of seasonal resources in the spot. Several sites discovered during the survey of the district Khairpur showed evidences of similar patterns of repeated occupancy (Shaikh 1995). The random collection of artifacts from these campsites furnish a clear pattern of their occupancy. For instance the presence of artifacts at the CPP3 site showed that it was occupied from Mesolithic to Kot Dijian periods and the K12 site was occupied during Mesolithic and than the spot was not visited until Indus period. Similarly, the site K13 was inhabited during historic period (Table:2).

## Functional analysis

Mughal (1997) during his survey of Cholistan classified and defined archaeological sites on a functional basis. His main categories included: industrial sites, settlement sites, and camp sites. Mughal identified campsites were identified by scattered objects deposited less than one foot thick

layer of cultural material (Mughal 1997). After my small scale survey of the Thar desert, I felt that Mughal had provided unclear explanations of archaeological sites. As mentioned earlier that my survey identified two categories of surface scatters. These scatter revealed clear pattern of the density of the cultural material over the ground, which determined the campsites. Their empirical analysis and scientific documentation have disclosed possible function of those spots which is apparently herding. The function of these campsites can be perceived analogically from the contemporary pastoralists activities in Thar region. My ethnoarchaeological studies have shown that the people of Thar region usually establish one / two canopy type *kacha* huts known as "*Wandh*". Apparently, these *Wandhs* are utilized seasonally by pastrolists who engage themselves in several other activities besides herding (Mallah 2000). Their main occupation is producing ropes, bags, robes *Khatha* and *Farasi* out of animal hairs or wool. Collecting antlers, tusks, horn, and leather and produce leather by-products like *Khali*, bags etc. Collecting ghee, honey and wild fruits. They also collect *Kana* for making ropes and small Tamrsik shoots for baskets and Typha for covering huts and making sleeping beds or mats. They also catch birds and sale to the nearby villages and town. It might be noted here that all these functions, however, are not carried at each *Wandh*. Thus the different *Wandh* are engaged into different occupation based upon the availability or resources around them. Nevertheless, the microscopic analysis of both the physical cultural material (i.e. Lithic and pottery) and soil is required to determine some of the activities conducted at those campsites.

## Deposition of artifacts at Campsites

The thin surface scatter of cultural material was lying in sparse manner over the ground, where each artifact was dispersed individually. The nature of the site deposition and artifact density depends on various factors including building materials utilized in the houses, for example, two to three *Kacha* houses built of impermanent material such as wood and reeds do not create the massive mounds of debris that mud and for mud brick houses create. The accumulation of constructional debris from such huts on the sand dunes would merely be insignificant. In these huts they utilize few utensils and tools for daily use. Archaeologically, we will have (a) no mounds and (b) few broken and discarded cultural items (artifacts). On the contrary, sites which were heavily populated living in *Kacha* houses might exhibit several depositional layers of the cultural debris, for example, *Talee* site (Personal Observation 1999-2000). At this type of sites the surface scatter would be relatively thick and one would immediately think that the spot was populated densely for longer time period and here archaeologist will have diversity of physical cultural objects. Both of these situations (campsite and village site) would mislead archaeologists to take an ambiguous decision in determining the actual status of an archaeological site. For instance, Rafique Mughal includes those settlements which consist of dense scatter as campsites and has included many Hakra period sites under the campsites category which is absolutely misleading interpretation of settlements specifically in the hierarchy of the earlier period settlements. It seems that Mughal has ignored documenting the actual campsites and consequently, archaeological interpretations of the entire Cholistan have been viewed differently.

The size factor at campsite is unsteady. There is no certain limit or demarcation of the size of such campsites as they occupied area in any one year would not be more the one hectare (unless a huge kin group was on the move) with little artifact diversity. These are related to pastoralists and nomads who are mobile year round. Since these people often return to camp in approximately the same

location, the camps can appear much larger archaeologically as the occupation spot shifts slightly from year to year. Campsites have been found associated with all the periods from Mesolithic to Early Harappan to modem contemporary time (Table:2).

As mentioned earlier that the type of artifacts gathered from these campsites illustrate limited diversity, representing major periods of occupancy. The main artifact assemblage consists of the chert stone and pottery sherds mainly plain. However, from the later historic periods, both plain and painted, incised, stamped and appliquṬ sherds along with embroidery mirrors, glass bangles, iron pieces were also collected (Fig. 7, 8).

## Conclusion

This study was an attempt to understand the phenomenon and nature of sites which represent low surface scatter cultural material over the surface. Archaeologically at these spots the cultural material repertoire is quite limited. The visible architectural structures and high-tech craft activity areas are absolutely absent. Previously, In Indus archaeology, these types of surface scatters were not given any proper attention. In result, the village sites were treated as campsites. It is only now that these low density surface scatters are taken into intensive investigational considerations. After archaeological and ethnoarchaeological research these temporary campsites are interpreted as an abode of nomads and pastoralists. Mother benefit of present research is that the misconceptions about campsites have been cleared and it is emphasized that the low density artifactual spots do carry a significant archaeological importance in order to reconstruct overall picture of the settlement hierarchical system of any given region of the World.

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**Table 1: Co-ordinates of the Campsites**

| S. No. | Name of Site | Latitude | Longitude |
|---|---|---|---|
| 1 | CPP1 | 27',08',03"N | 69',13',52"E |
| 2 | CPP2 | 27',07',52"N | 69',14',02"E |
| 3 | CPP3 | 27',07',38"N | 69',14',22"E |
| 4 | Gorwar (old K6) | 27',05',44"N | 69',15',37"E |
| 5 | Gorwar2 | 27' 05',41"N | 69',16',11"E |
| 6 | K7 | 27',02',52îN | 69',15',44îE |
| 7 | K13 | 27',05',29"N | 69',04',32"E |
| 8 | K13B | 27',06',01"N | 69',04',31"E |
| 9 | K12 | 27',11',42"N | 69',13',59"E |
| 10 | K3B | 27',10',27"N | 69',12',13"E |
| 11 | Hadi Bux jee Wandh I | 26',59',–N | 68', 59',–E |
| 12 | Hadi Bux jee Wandh II | 26',59',–N | 68',54',–E |
| 13 | Choondiko | 27',20',–N | 68',55',–E |
| 14 | Lak Sharief | 26',37',–N | 69',04',–E |
| 15 | M.Usman Behan | 26',31',–N | 69',58',–E |
| 16 | Rarr Waro | 27',23',–N | 68',05',–E |
| 17 | Tilahu Wari Dhandh I | 27',04',02"N | 69',38',55"E |
| 18 | Tilahu Wari Dhandh II | 27',21',30"N | 69',18',04"E |
| 19 | Miano | 27',20',59"N | 69',17',16"E |
| 20 | Fakiro Bhambhro | 27',18',39"N | 69',17',48"E |
| 21 | Kando I | Not Available | Not Available |
| 22 | Matal I | 27',16', 53"N | 69',16',13"E |
| 23 | Matal II | Not Available | Not Available |
| 24 | Kacho Waro Chhaho I | Not Available | Not Available |
| 25 | Kacho Waro Chhaho II | Not Available | Not Available |
| 26 | Khipro I | 27',29',25"N | 69',21',35"E |
| 27 | Khipro II | 27',29',25"N | 69',21',36"E |
| 28 | Dubi | 27', 08',–N | 68', 42',–E |

**Table 2: Showing length of occupancy through the presence of various periods at each site**

| S. No. | Name of Site | Mesolithic | Neolithic | Hakra | Kot Dijian | Indus | Other |
|---|---|---|---|---|---|---|---|
| 1 | CPP1 | | | | X | X | X |
| 2 | CPP2 | | X | X | X | | |
| 3 | CPP3 | X | X | X | X | | |
| 4 | GO.(old K6) | | | X | | | X |
| 5 | Gorwar2 | X | X | X | X | | X |
| 6 | K7 | | | X | | | X |
| 7 | K13 | | | | | | |
| 8 | KI3B | | | X | | | |
| 9 | K12 | X | | | | X | X |
| 10 | K3B | | | | | X | X |
| 11 | H.B.W.I | | | | | X | X |
| 12 | H.B.W.II | | X | | | X | X |
| 13 | Choondiko | | | X | X | X | X |
| 14 | Lak Sharief | | | X | X | | X |
| 15 | M. U. Behan | | | X | | | X |
| 16 | Rarr Waro | X | | X | X | | X |
| 17 | T.W.D.I | | | | | X | X |
| 18 | T.W.D.II | | | | X | X | X |
| 19 | Miano | | | | | X | X |
| 20 | Fakiro B. | X | | X | | X | X |
| 21 | Kando I | | | X | | | X |
| 22 | Matal I | | | X | | | X |
| 23 | Matal II | | | X | X | | X |
| 24 | K.W.C. I | | | | | | X |
| 25 | K.W.C.II | | | | | X | X |
| 26 | Khipro I | | | | | X | X |
| 27 | Khipro II | | | | | X | X |
| 28 | Dubi | X | | | X | X | X |


Figure 1: Sindh province of Pakistan showing recent research area.