
A Comparison of Lithic Assemblages Belonging to Economically Diverse Settlements Flourishing During Mid-third Millennium BCE Gujarat

Charusmita Gadekar¹, P. Ajithprasad¹ and Rajesh S.V.²

- ¹. Department of Archaeology and Ancient History, The Maharaja Sayajirao University of Baroda, Vadodara – 390002, Gujarat, India (Email: doyaldua@gmail.com; ajitkarolil@rediffmail.com)
 - ². Department of Archaeology, University of Kerala, Kariavattom Campus, Thiruvananthapuram – 695581, Kerala, India (Email: rajeshkeraliyan@yahoo.co.in)
-

Received: 25 September 2015; Accepted: 18 October 2015; Revised: 08 November 2015
Heritage: Journal of Multidisciplinary Studies in Archaeology 3 (2015): 44-53

Abstract: This paper deals with the lithic assemblages belonging to two contemporary Harappan sites involved in different economic production practices. Both the sites are situated in Gujarat, Western India and flourished during the mid-third millennium BCE. One of the sites is Bagasra, situated in Rajkot district and the other site is Shikarpur, situated in Kachchh district. Bagasra was an important craft production centre while Shikarpur was involved in inter-regional trade and exchange. Bagasra has given evidence of being self sufficient in its lithic tool use while Shikarpur has shown heavy reliance on imported tools. The studies have shown that the craft community at Bagasra was utilizing “formal tools” that had undergone additional effort in their production. The “formal tools” are often linked with populations practicing more mobile settlement strategies (and having short-term site occupations). Their presence at the site of Bagasra is thus intriguing since Bagasra was not a mobile settlement. The vast number of imported stone blades (Rohri chert blades) recovered from Shikarpur, on the other hand shows utilization without additional efforts. These two assemblages reflect the context of their production and use and show marked differences in their typological as well as technological features.

Keywords: Harappan Civilization, Lithic Assemblage, Raw Materials, Rohri Chert Blades, Stone Tools, Bagasra, Shikarpur

Introduction

Bagasra and Shikarpur are two contemporary sites belonging to the Harappan civilization, situated close to each other across the Gulf of Kachchh (Fig. 1) in Gujarat. Harappans were well known for their characteristic and standardised artefacts and architectural elements which have been found across a vast geographical area. This apparent similarity in their features can be misleading as each and every sites belonging to this civilization would give evidence of individuality if analyzed minutely. This paper has taken the data of one group of artefacts common to both the

sites, stone tools, and has shown that even these generally neglected artefacts can present interesting evidence which in turn reflects economical conditions of the people involved.

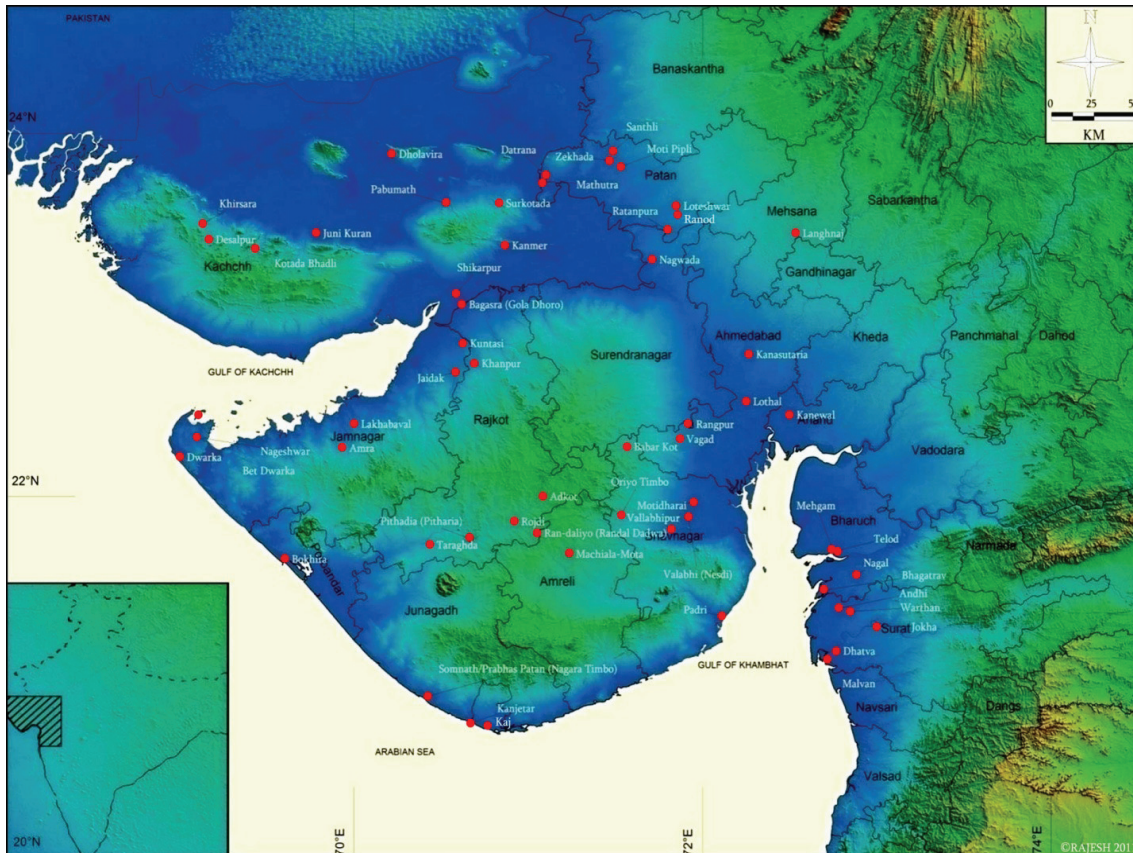


Figure 1: Map of Gujarat with major excavated sites

The sites

Bagasra, (23°3'30"N; 70°37'10"E) is a small (160 x 120 m) fortified Urban Harappan site situated on the southeastern shore of the Gulf of Kachchh (Fig. 1) in Maliya taluka of Rajkot district, Gujarat (Sonawane *et al.* 2003). The site is known locally by the name *Gola Dhoro* which means a circular mound. The site has been excavated by the Department of Archaeology and Ancient History, The Maharaja Sayajirao University of Baroda, Vadodara for nine consecutive years starting from the 1995-96 field season (Sonawane *et al.* 2003, Bhan *et al.* 2004).

The excavations revealed 7.75m thick habitational deposit belonging to four distinct developmental phases. The classification of the developmental phases is based on the stratigraphic context and quantitative distribution of distinct, diagnostic artefacts and also by considering architectural constructions at the site (Sonawane *et al.* 2003).

Phase I represents the early stages of the Urban Harappan occupation at the site and it is represented by 1.00-1.75m habitational deposit. The date for this phase is about 2450 B.C.

Phase II was the most prosperous period during the entire history of the site. The construction of a massive fortification wall in three different stages is the most conspicuous feature of this phase. Flourishing of craft activities like shell bangle manufacture, semiprecious stone bead fabrication, faience bead industry, etc. boosted trade and prosperity. The cultural debris representing this period has a thick accumulation measuring more than 5m. The date is about 2400-2100 B.C.

Phase III was the declining stage of the Urban Harappan occupation. It is distinguished from the preceding phase by the preponderance of Sorath Harappan artifacts along with the Classical Harappan. The deposit has an average thickness of about 1.20m. This phase can be dated to about 2100-1900 B.C.

Phase IV represents the Late or Post-Urban Harappan occupation of the site. The deposit is found directly overlying the Phase III deposit without any stratigraphic break. The dates suggested are 1900-1700 B.C.

The mound at Shikarpur, known as Valamio Timbo (23° 14' 15" N; 70° 40' 39" E) (Fig. 1), is a small (approximately 3.4 hectares) settlement of Urban Harappan Civilization situated near the Gulf of Kachchh in Bhachau Taluka, Kachchh District, Gujarat. The site was first excavated by the Gujarat State Archaeology Department during 1987-89. The re-excavations have started here from 2007-2008 field seasons (2007-08 to 2013-14) by the Department of Archaeology and Ancient History, The Maharaja Sayajirao University of Baroda (Bhan and Ajithprasad 2009; Ajithprasad et al. 2012).

Shikarpur has about 6.40m thick overall habitation deposit divisible into three successive Phases of Harappan occupation belonging to the Urban and Post-Urban. The early two Phases- Phases I and II- both belonging to the Urban phase are the most prominently represented cultural remains at the site. These are represented by Classical Harappan artefacts such as stoneware bangles (this is the only site along with Dholavira in Gujarat from where these special bangles have been discovered); terracotta objects (beads, bangles, tops, spindle whorls, human and animal figurines, triangular cakes, toy cart frames and wheels, tablet, sealings/seal impressions); steatite seals; steatite and semi-precious (carnelian, banded agate, variegated chert, lapis lazuli, jasper and amazonite) stone beads; shell objects (bangles, inlay pieces, stylus like cones, pendants and other ornaments); copper objects (knife blades, pointed rods and pins, cobbler's knife, v-shaped arrow tips, rings, bangles and beads); bone points; a decorated ivory staff and lithic blade tools especially the Rohri chert blades. The remains of Classical Harappan structures made of mud bricks having the standard 1:2:4 ratio are prominent at Shikarpur. The ceramic assemblage includes, apart from the Classical Harappan pottery, Sorath Harappan pottery and good quantities of Anarta pottery- the indigenous ceramic types of North Gujarat and southern Kachchh- suggesting coexistence of the two traditions.

Phase III deposits belonging to the Post-Urban are patchy and unevenly distributed at the site. They are mostly confined to the eastern and the southern part, have a

thickness ranging from 30-50cm and are represented by flimsy circular structures and artefacts resembling the Rangpur IIC (Ajithprasad et al., 2012).

The Lithic Assemblages

The entire lithic assemblage from both the sites has been analyzed for this paper. Both the sites have been excavated for more than five years where on an average more than 80 trenches were excavated at each site. Thus the lithic assemblage recovered from these sites is comparable.

The assemblage was classified into the categories of tools and lithic debitage. Tools, based on their morphological features, have been further classified into different types of blades (backed blades, obliquely blunted blades, crested ridge blades, blade flakes and retouched blades), geometric tools (represented by lunates, triangles, trapeziums) and non-geometric tools (points, burins, borers and variety of scrapers). Lithic debitage was classified into flakes, nodules, cores, core rejuvenation flakes and undiagnostic wastes or shatter (classification follows Gadekar 2014a).

Measurements of tools and debitage were taken by Schlenker digital caliper (SEL-SV-03-150). All the measurements were taken by placing the tools with dorsal side facing the researcher and the proximal end facing up. The lengths correspond to a line perpendicular to the striking platform width; tool widths/breadths were taken at the mid- point of the length, thicknesses were measured by rotating the artefact 90° from the width point. The lateral edges of all the blades were examined macroscopically.

Raw Materials

The raw materials were classified into cryptocrystalline silicates and non cryptocrystalline silicates. Cryptocrystalline silicates include chert, chalcedony, banded agate, moss agate, Rohri chert, bloodstone and carnelian. The non cryptocrystalline silicate includes quartz and quartzite. Majority of the tools from both the sites had been made out of chert, Rohri chert, moss agate and chalcedony (Gadekar 2006, 2014a). For convenience of statistical analysis, rest of the raw materials has been placed under the category, 'other' (table 1).

Distinction has been made between chert and Rohri chert. Rohri chert is a distinct raw material which can be obtained only from the Rohri hills of Sindh, now in Pakistan. Rohri chert blades are highly standardized tools and were manufactured at Rohri hills (Biagi and Cremaschi 1991). Chert on the other hand is available in Gujarat and thus can be called 'locally available'.

Results

As can be seen from table 1, chert was the raw material utilized to manufacture different types of tools, blades (Figs. 2 & 3) as well as non-blades, at Bagasra. Tools were also manufactured at the site itself which can be seen from the corresponding debitage. The presence of Rohri chert blades (Fig. 4) and the absence of its

corresponding debitage from Bagasra (table 1) clearly suggest that these blades were not manufactured at the site. Rohri chert blades have been found in large quantity from the site of Shikarpur (figure 5). And as is evident by looking at the dearth of corresponding debitage, they were definitely not produced at the site. Importance of Rohri chert blades at Shikarpur has been pointed out elsewhere (Gadekar 2014b).

Table 1: Distribution of lithic assemblage from Bagasra and Shikarpur

Site	Raw Material	Blades (%)	Geometric Tools (%)	Non-geometric Tools (%)	Lithic Debitage (%)
Bagasra	Total No.	870	127	138	4850
	Chert	58.05	72.44	86.86	86.31
	Rohri chert	18.85	0	1.46	0.62
	Moss agate	13.45	14.96	1.46	1.4
	Chalcedony	8.05	12.60	2.92	5.11
	Other	1.6	0	7.3	6.56
Shikarpur	Total No.	736	3	30	4442
	Chert	3.67	0	3.33	46.53
	Rohri chert	89.13	0	76.67	0.72
	Chalcedony	3.67	100	10.00	17.24
	Banded agate	1.09	0	3.33	26.07
	Other	2.44	0	6.67	0

Table 2: Metric analysis of blades from Bagasra and Shikarpur

	Length (mm)		Breadth (mm)		Thickness (mm)	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Bagasra						
Local blades	17.5	8.01	6.8	3.13	2.24	1.37
Rohri chert blades	28.59	11.67	11.97	2.95	3.14	1.04
Shikarpur						
Rohri chert blades	28.46	13.58	11.26	3.26	3.00	1.45
Local blades	18.38	7.71	8.19	4.35	2.59	1.69

Different types of geometric tools (Fig. 2) and non-geometric tools have been found from the site of Bagasra while Shikarpur has shown hardly any evidence of geometric tools and limited number of non-geometric tools (table 1 and Fig. 6).

The difference between chert and Rohri chert blades can also be seen from their metric analysis. In Bagasra most of the blades were found in intact condition while the blades of Rohri chert (Fig. 4) were in broken condition (Gadekar 2006). Most of the Rohri chert blades at Shikarpur were also found in broken condition. Scholars have observed that Rohri chert blades were generally broken intentionally for optimal use (Inizan and Lechevallier 1997; Gadekar 2006, 2014a, 2014b). As can be seen from table 2, even broken blades of Rohri chert are longer, broader and thicker than the blades made out

of locally available raw material. Blade flakes (here put together with blades) are generally thicker and broader than the other variety of blades so if we remove them from the calculation the local blades become even smaller in size.



Figure 2: Geometric tools and blades from Bagasra



Figure 3: Various types of blades from Bagasra



Figure 4: Rohri chert blades from Bagasra



Figure 5: Rohri chert blades from Shikarpur



Figure 6: Geometric tools and blades made out of local raw material from Shikarpur

Discussion

Andrefsky (2004) has stated that tools which require great amount of efforts in their production are called formal tools. He further says that some studies have associated formal tools with hunter-gatherer populations or populations practising more mobile settlement strategies.

Geometric tools, represented by triangles, trapeziums and lunates and non-geometric tools (which include variety of scrapers, points, burins and borers) have been put into the category of formal tools in this paper. All the geometric tools at both these sites were made out of parallel sided blades where extra effort was spent to give them different shapes by minute secondary retouches. Non-geometric tools, specially the scrapers, were made out of flakes and also show extra effort in production due to their secondary retouches.

Thus we would like to suggest, these are very tentative suggestions, that the reliance shown by people of Bagasra on formal tools most probably indicates that the blades made out of locally available material were smaller and thinner, thus to increase their durability they were made into formal tools and were hafted into handles to make composite tools such as sickles and knives. The other reason which comes to mind is that most probably the people of Bagasra were often involved in hunting and fishing activities more than the people at Shikarpur. It has been suggested by different scholars that Geometric tools were more useful as hunting tools (Clark 1932, 1969; Jacobi 1976, 1980; Mellars 1978, 1976; Radley et al 1974; Sankalia 1982).

People of Shikarpur had access to blades which were longer, thicker and broader and thus did not require further modifications. And since Shikarpur was definitely a much affluent site which was able to get exotic goods from long distances (Chase et al 2014), people might not be directly involved in hunting and fishing activities or it is also possible that metal/copper implements may have partly replaced many of the micro blade tools at the site.

Conclusion

It can be seen that by a systematic study of lithic assemblages from Bagasra and Shikarpur, belonging to the Harappan civilization, the hidden differences/similarities of tool types and economic adaptive strategies adapted by these sites are easily observed. Two contemporary sites, even situated close to each other have shown very distinct patterns in their lithic assemblages here. This shows that if studied properly lithic assemblages even belonging to the Chalcolithic period can provide useful information regarding raw material exploitation, import/export of tools and choices made in tool types.

Acknowledgement

The authors are thankful to Archaeological Survey of India and State Department of Archaeology, Gujarat for granting permission to excavate the sites. The first author is thankful to the Department of Archaeology and Ancient History, The M. S. University of Baroda for allowing her to study the lithic assemblages; to the Jawaharlal Nehru Memorial Fund, New Delhi for granting her doctoral scholarship to complete her research and is also thankful to Dr. Brad Chase for stimulating discussions about Harappans.

References

- Ajithprasad, P., K. Krishnan, K.K. Bhan and S. Prathapchandran. 2012. Excavations at Shikarpur 2011-2012. *Unpublished Excavation report for Archaeological Survey of India*, Department of Archaeology and Ancient History, the Maharaja Sayajirao University of Baroda, Vadodara.
- Andrefsky, W.J. 2005. *Lithics: Macroscopic approaches to Analysis*. Cambridge Manuals in Archaeology. Cambridge University Press.
- Bhan, K.K. and P. Ajithprasad. 2008. *Excavations at Shikarpur 2007-2008: A coastal port and craft production centre of the Indus civilization in Kutch, India*. www.harappa.com.
- Bhan, K.K., V.H. Sonawane, P. Ajithprasad and S. Prathapchandran. 2004. Excavations of an Important Harappan Trading and Craft production center at Gola Dhoro (bagasra), on the Gulf of Kutch, Gujarat, India. *Journal of Interdisciplinary Studies in History and Archaeology*, Vol.1, No. 2:153-158.
- Biagi, P. and M. Cremaschi. 1991. The Harappan flint quarries of the Rohri Hills (Sind-Pakistan). *Antiquity*, Vol 65 No 246: 97-102.
- Chase, B., P. Ajithprasad, S.V. Rajesh, A. Patel and B. Sharma. 2014. Materializing Harappan identities: Unity and diversity in the borderlands of the Indus Civilization. *Journal of Anthropological Archaeology* 35: 63-78.
- Clark, J.G.D. 1932. *The Mesolithic Age in Great Britain*. Cambridge: Cambridge University Press.
- Clark, J.G.D. 1969. *World Prehistory: A New Outline*. Cambridge: Cambridge University Press.

- Gadekar, C.S. 2006. *A Preliminary Study of Harappan Blade and Flake Industry of Bagasra*. Master's Dissertation. Vadodara: The Department of Archaeology and Ancient History, The M.S. University of Baroda.
- Gadekar, C.S. 2014a. Lithic Blade Implements and their role in the Harappan Chalcolithic cultural development in Gujarat. Unpublished thesis. Department of Archaeology and Ancient History. Vadodara: The M.S. University of Baroda.
- Gadekar, C.S., Rajesh S.V. and P. Ajithprasad. 2014b. Shikarpur Lithic Assemblage: New questions regarding Rohri chert blade production. *Journal of Lithic Studies* (1): 137-149.
- Inizan, M.-L. And M. A. Lechevallier. 1997. Transcultural Phenomena in the Chalcolithic and Bronze Age Lithics of the Old World: Raw Material Circulation and Production of Standardized Long Blades. The Example of the Indus Civilization. In B. Allchin and R. Allchin (eds.), *South Asian Archaeology 1995* (pp. 77-85). New Delhi: Oxford and IBM.
- Jacobi, R. M. 1976. Britain Inside and Outside Mesolithic Europe. *Proceedings of the Prehistoric society* 42: 67-84.
- Jacobi, R.M. 1980. The Early Holocene settlement of Wales. In J.A. Taylor and R. Bowens (eds.) *Culture and Environment in Prehistoric Wales* (pp 131-206). BAR British Series 76. Oxford: BAR.
- Mellars, P. 1974. The Paleolithic and Mesolithic. In C. Renfrew (ed.) *British Prehistory: A New Outline* (pp. 41-99). London: Duckworth.
- Mellars, P. 1976. Settlement patterns and industrial variability in the British Mesolithic. In G.de G. Sieveking, I.H. Longworth and K..E. Wilson (eds.) *Problems in Economic and Social Archaeology* (pp. 375-399). London: Duckworth.
- Radley, J., V.R. Switsur and J.H. Tallis. 1974. The excavation of three "Narrow Blade" Mesolithic sites in the southern Pennines, England. *Proceedings of the Prehistoric Society* 40: 1-19.
- Sankaliya, H.D. 1982. *Stone Age Tools*. Poona: Deccan College Post-graduate and Research Institute.
- Sonawane, V.S., P. Ajithprasad, K.K. Bhan, K. Krishnan, S. Prathapachandran, A. Majumdar, A. Patel, and J. Menon, 2003. Excavations at Bagarsa- 1996-2003: A Preliminary Report. *Man and Environment XXVIII* (2): 21-50.