Introduction

The proposed research work entitled *Specialization in Harappan Pottery Production: A case study from Gujarat* is an attempt to define different Harappan potteries of Gujarat from a typo-technological point of view by taking Bagasra (23° 03' 30" N, 70° 37" 00" E) as a type site. Further this study would be extended to other Harappan sites of Gujarat. The study will lead to understanding the aspect of Standardization in the Harappan pottery production. Understanding standardization is significant as it proceeds towards studying craft specialization, which forms an integral part of Indus Urbanization.

As far as the Indus valley civilization is concerned Gujarat is the best explored and excavated state of India after independence. Although the core region of the Harappan Civilization lies in the Indus Valley, the presence of a large number of Harappan sites of varying cultural milieu in Gujarat indicates that this region
enjoyed equal importance during the Harappan Period. Some of the important excavated Harappan sites of Gujarat are Dholavira (Bisht, 1989), Surkotada (Joshi, 1990), Kuntasi (Dhavalikar et.al, 1996), Nageswar, (Hegde et.al, 1990) Nagwada (Hegde et.al, 1988), Rojdi (Possehl and Herman, 1989), Padri (Shinde, 1992) Rangpur (Rao, 1963), Lothal (Rao, 1979 & 1985) etc. The study of material remains from these and other excavated sites along with the explored materials from various parts of Gujarat have enhanced our understanding of Harappans and at the same time given rise to various debatable issues. These include their varying subsistence pattern from one region to another; regional identities; varieties of ceramics, often referred to as typical/classical, regional/indigenous and also specific types indicative of their contact with contemporary Chalcolithic cultures; their relation with the surrounding geomorphology, significance of location of settlements, function of the settlements etc. Each of these issues offers tremendous potentials to be tackled independently. The present study addresses the need to understand the ceramic varieties and standardise them from a typo-technological point of view.

Rao's (1963) cultural sequence at Rangpur acted as the chronology of the Harappan sites in Gujarat for a long time. At Rangpur, he identified three periods, period I - Microlithic Culture, period II - Harappan culture, period III - Lustrous Red Ware or Post Harappan Culture. He further divided Rangpur II or the Harappan Culture in to three phases, IIA, IIB, and IIC. He termed IIA as the Mature Harappan Culture, IIB as the Late or degenerate Harappan Culture and IIC as the transition phase of the Harappan Culture. Thus, Rangpur for the first time revealed a stratigraphical relation between the Late Harappan Phase (Rangpur IIB) and the Mature Harappans (Rangpur IIA). It was believed that most of the sites with an affiliation to Harappan Culture found in Saurashtra belonged to the Late Harappan or Post Urban phase (Possehl, 1989: 19). This argument was mainly based on the mixed subsistence economy involving both pastoralism and agriculture and the stylistic comparison of the ceramics and was not supported by
any carbon-14 dates. The excavation at Rojdi revealed three phases, labelled as Rojdi A, B and C. In general, the material assemblage of Rojdi A, B and C resembles that of Rangpur II B and C and the other related sites. The carbon-14 dates from Rojdi also indicate that all the sites in Saurashtra with the pottery from these two phases should be dated to the urban Harappan phase and not to the post urban or late phase (Possehl, 1992: 125-128). Thus Rojdi and many other sites in Saurashtra represent a newly discovered regional expansion of the Harappan urban phase and Possehl proposed the new name ‘Sorath Harappan’ to the new regional urban phase culture (Possehl, 1989: 13). He also identified 152 rural settlements as Sorath Harappan (Possehl, 1989: 13). Most of these settlements are small with a stone foundation and a stone wall and have been interpreted as small rural villages and dry seasonal camps of those engaged in millet cultivation and pastoral subsistence (Possehl, 1989: 27-50).

Further, Possehl (1989) broadly categorised the Harappan sites of Gujarat as ‘Sindhi’ and ‘Sorath Harappans’. He defines ‘Sindhi Harappans’ of Gujarat as the Harappans who settled mainly in and around Kutch. They have the same cultural tradition or possess elements of the typical Harappans. These are enumerated by him as the inscribed stamp seals, Indus weights, metal works, beads, architecture and ceramics painted in classic black on red style known from the places like Mohenjodaro, Harappa, Kalibangan, Amri etc (Possehl, 1989:10). Possehl argues that the Sindhi Harappans were the people of Sindh who migrated to Saurashtra through Kutch, the present border area of Gujarat about 2500 BC. They seem to have come to Gujarat in an effort to assess and utilise the material wealth of this region (Possehl, 1989:11). According to him, the main Sindhi Harappan sites in Gujarat are Surkotada, Desalpur, Pabumath, Dholavira, Nageswar, Nagwada and Lothal. The Sindhi Harappans share the material inventory of Harappan sites of Sindh along with the local/non-Harappan and early/pre-Harappan ceramic types (Bhan, 1989). Majority of these settlements seem to have developed to facilitate administration, which is reflected in the construction of massive lime stone walls.
and bastions at Surkotada, Dholavira and Desalpur and for trade and also to access raw materials as indicated by the material inventory and location of the settlements of Nagwada and Moti Pipli in north Gujarat, Nageshwar and Lothal in Saurashtra (Bhan, 1994). The recent excavations at the site like Loteshwar, Dholavira, Lothal Padre, Datrana, Prabhas Patan, Motipipli, Surkotada, etc indicate that even prior to the integration era Gujarat was inhabited by the Chalcolithic communities (Sonawane and Ajith Prasad 1994, 2002). These Pre Harappan, Pre-Harappan/Non-Harappan communities can be identified based on their archaeological characteristics and geographical locations. They are the Anarta Tradition (North Gujarat), Micaceous Red Ware and Padri Ware (Gulf of Kambat), Pre-Prabhas (Prabhas Patan region) and a Polychrome tradition of Kutch region. Some of the recent studies (Possehl 1992) further made a categorization of the Harappan culture in Gujarat in to Sindhi Harappan, showing close connection with the Indus proper and Sorath Harappan having a strong regional identity.

Thus the studies brings out a more detailed picture of the chalcolithic communities of Gujarat and at the same time produce several questions like the regionality, local development, independent existence etc. All most all these studies are based on the typology of the ceramics. External features, decorative motifs etc were given prime importance and based on that several culture/traditions were established. Most times these traditions were identified in to different compartments and shows independent evolution at many excavated sites. No real attempt has been done to evaluate it from a holistic point of view. Once you look these traditions and ceramic assemblage you can find that these changes and classifications are really minor variations due to the local geology, climate, and activities of a particular region. On the whole they all are the same which is reflected materialistically different. So here instead of making classifications over classifications and cultural divisions once has to view the growth or change of a culture in a more prolonged way and new methods were developed to understand the changing perspective archaeology instead of making
different water tight compartments. The excavations at Bagasra revealed the existence of all the above mentioned cultures together at in one particular site in a stratified context for the first time in Gujarat. Moreover the strategic location and the rich archaeological potential enhance the relevance of the site. In such a context the study of ceramics from a site like Bagasra is crucial in explaining the cultural trajectory of the Harappans in Gujarat, particularly in the mature Harappan phase.

**Major Objectives of Research**

1. Define the different ceramic traditions at Bagasra.
2. Identify the development of ceramic manufacture at Bagasra in relation with its sequence.
3. Identify the provenance, technique of manufacturing and distribution pattern of the Harappans at the site.
4. Attempt to recognize the similarities /differences between Sorath and Sindhi Harappan Ceramics.
5. Identify the degree of specialization on ceramic production at Bagasra.
6. Compare the results with major studied sites like Nageshwar (Krishnan 1986), Nagwada (Shah 2001) and Padri (Bhagat 2000) to appreciate the level of standardization in Harappan ceramic production.
7. A proposed model for understanding specialization on archaeological ceramics.

With the above purpose the ceramics of Bagasra were allowed to go through different methods of analysis as each of the methods were employed with specific objectives. A combination of four methods has been used for the analysis. Typology has been considered for analysis as it provide a relative chronology to the site and samples and also help in ordering the ceramics for any type of analysis and thus it provide a base for all analysis. In order to understand the technology of manufacture and provenance of the raw material thin section analysis has been opted. Further an ethnographic analysis has also been carried out.
around the study area in order to get an idea about the local geology, site formation and local traditions existing around the site. After considering the visible and recordable attributes which may reflect the skill and organization of the potter, a morpho metric analysis was also included in the study. Thus as a whole a combination of four major methods has been considered for the analysis.

The following write up shows division of the thesis in to six chapters. They are:

**Chapter I Introduction**

The chapter will outline the significance of the research work. The chapter consist of the background of study, its significance and the major objectives. It may discuss the ideas used in formulating the research problem.

**Chapter II- Ceramic Analysis on Indian sub-continent and the Harappan Culture**

It contains a review of the major ceramic studies on Indian sub-continent. It may further converse the present status of the Harappan studies. It may also emphasis on the significance of such studies in developing a better understanding on Harappan culture. It includes a detailed discussion on the Harappan culture in Gujarat with special reference to Gujarat. For the ease of working and better understanding the site the study followed the Phase wise Division which is based on the differences in architecture and antiquities.

**Chapter III-Methods and Materials**

Chapter III deals with the methods adopted for study. It includes the nature of the samples, strategies adopted for sampling and the justification for the selection of the methods for analysis. Here a combination of four methods has been considered for analysis and justified the selection through arguments. They are the typological analysis, Thin-section analysis, Morpho metric analysis and an Ethnographic study. Each method has been dealt individually and explains their technical constraints.
Chapter IV- Analysis and Results

Chapter four exclusively deals with the analysis and its results mainly in four parts. Part I deals with the typological analysis, that do an ordering of the samples and device a relative chronology for the samples and the site and a base for further analysis. Part II is the thin section analysis where selected representative samples were allowed to go through a microscopic thin section analysis and their results. Part III is an ethnographic study around the site and the last part deal with a morpho metric analysis of the selected samples from Bagasra.

Chapter V- Discussion

Chapter five contains a discussion over the result of the analysis. it discuss the typological aspects of the ceramics in comparison with the scientific analysis. The chapter will further evaluate the validity of the ethnographic exercise (model) and its application on archaeological samples at Bagasra. An attempt has been made to see the specialization reflected on the archaeological ceramics at Bagasra and tried to define the concept and parameters of specialization. Here, the relationship between specialist, standardization, the context of production and raw material processing techniques and the role of environment in making a quality final product has been discussed.

Chapter VI Conclusion

This chapter will conclude the major results and validity of the model and its applicability on archaeological context. The result of the analysis will further compare with the sites like Naheshwar, Nagwada and Padri in order to appreciate the level of Specializatio/standardization on Harappan ceramic production.

Appendix

This part will contain various tables or data that will support the observations, arguments and propositions made in the thesis.