



**RESEARCH PAPER**

**Feast Furniture of Indus Urban Phase 2600-1900 BCE: Study of Social Stratification through Diet Storing and Serving Pattern in Indus Civilization**

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**ABSTRACT**

The social organization of Indus people during urban phase 2600-1900BCE of Indus civilization which continued for 700 years is still ambiguous. Hence, the objective of study is to consider whether or not class system existed in all settlements of Indus Valley. Background of study is based on the literature posing the archaeological documentation about food vessels and utility patterns; their frequent and infrequent use, ritual and regular use expressing the status of Indus people. The issue is taken through methodology using cross cultural comparison from ancient civilizations and the archaeological and ethnoarchaeological documentation within Indus land. The findings of present data set showed very clear segments of the Indus society and possible patterns of their social expansion within Indus land. It is further recommended that the vessels may examined through, use wear, micro residues and lipid analyses to authenticate the use of food vessel for social stratification in Indus Civilization.

**Keywords:** Ethno Archaeology, Food System, Indus Valley, Social Stratification

**Introduction**

Indus civilization advanced to have the intensified cities during the 2600BCE to 1900BCE. In total geographical spread till now; Indus Archaeologists have registered seven mega cities and more than thousand towns and numerous villages with very complex socioeconomic system. All the settlements were interlaced through interaction networks being Indus script as medium of interaction. The living pattern was hierarchical, the cities had intensive activities with high degree of cultural diversity.

The present endeavor is about the issue of social segmentation of Indus people through the utensils they used for eating, storing and cooking food. The Urban Phase (2600-1900 BCE) Indus culinary depended upon meat, fish and vegetables from (a) domesticated sources and (b) hunting. The food was cooked and flavored with spices. The fruits and honey was also in the dietary pattern.

Having focus on the food and foodways furniture and social stratification is seen in three major ancient civilizations like Mesopotamia, Egypt and Indus, thus, the term “feast’ is taken as synonym of food for present discussion. The kitchen utensils are listed from archaeological discoveries and ethnoarchaeological documentations of traditional potter communities (Khan and Thomas 2019, Usegi *et al* 2015). After cooking food, serving begins, thus cross cultural studies from Mesopotamia; Egyptian civilizations and the ethnoarchaeological documentations are utilized.

The food vessels highlighted commercial, ritual and technical behavior and the social stratification of ancient Indus people specifically the potters. The feast furniture data set has enhanced the general understandings about the social stratification of Urban Phase in Indus valley civilization.

### Literature Review

The data for present paper have been obtained through more than fourteen settlements like Farmana Rojdi; (Reddy1994, 1997, 2003). The Shortughai, Kunal, Balu, Loteshwar, Datrana Vaharvo Timbo and Kanmer (Willcox 1991; Saraswat and Pokharia 2001-02; Garcia-Granero *et al* 2015, 2016, 2017a, 2017b, Kharakwal *et al* 2008, 2011). The settlement of Masudpur, Chugta, Burj and Bahola were investigated (Bates 2016; Petrie *et al.*, 2016; Bates *et al.*, 2017a, 2017b, 2017c; Petrie and Bates, 2017). The Alamgirour and Lahuradewa have also been considered. Ethnoarchaeology as a debating tool was considered (Kramer 1979; Chase 2005, 2014, Sinapoly 1991, Sikbo *et al* 1988, Tite 2008, Khan and Thomas 2019).

The literature about food systems explained that food was cooked in ghee/oils obtained through animal and fish fat, seed oil and clarified ghee as milk byproduct (Pokharia *et al* 2011, Pokharia 2011, 2008, Channarayapatna 2018, Chase 2005, 2012, 2014, Chase *et al* 2020, 2014, Belcher 2019, 2011; Bates *et al* 2021, Abhayan 2016, Fuller 2019, Biagetti *et al* 2022). The food was flavored with various spices such as, cinnamon, nutmeg, clove, black pepper and others. The varieties of fruits enjoyed were as Mango, Jamun, Amala and walnut (Kenoyer 1998, Bates 2019, Saraswat, 1993 as cited by Bates 2019). The Indus period Gujarati people hunted large, medium and small wild animals; the birds, and fishes (Joglekar 2013; Bates 2019). Jonathan Mark Kenoyer (1998) has seen similarity of cooking utensils of the urban phase 2600-1900 BCE to the traditional vessels used in contemporary times. During this period; wheat bread i.e. *Roti*, vegetables and meat culinary items were cooked in very similar way as in contemporary kitchens of South Asia (Bates 2019).

### Material and Methods

The methodology of present paper holds synergic approach based on the deductive explanation to comprehend the hypothesis generated for present analysis. The archaeological systems theory is involved for the necessary factors of the study. Cross cultural Approach is another most important archaeological approach to understand the past. It is included into synergic approach of explanations. According to Cross cultural approach; any cultural unit considered more advanced than others may have influence for comprehending the issues. For instance, food ways of Indus civilization need to be understood for explaining the social setup through other ancient populations. Here, the Mesopotamian and Egyptian cultures are utilized to understand the social stratification in Indus valley civilization. The attestation is further taken through ethnoarchaeological observations from Indus land. Combinations of all methodologies have brought a new way of further research for more clarity of issues in Indus civilization.

### Results and Discussion

After the first announcement in 1826 by British officers and confirmation through excavation of Harappa and Mohenjo-Daro during second decade of 20<sup>th</sup> century; now the Indus Valley Civilization is known to world having three main cultural development phases such as (i) the Early Harappan/Indus Phase (3300 to 2600 BCE); (ii) the Mature Harappan/Indus or Urban Phase (2600 to 1900 BCE), and (iii) Late Harappan/Indus Phase (1900 to 1300 BCE). During Mature Urban Phase 1052 large and small cities spread throughout the Indus land.

Indus civilization did not had large palaces with paintings, carvings and the language is still un-deciphered. The Egypt and Mesopotamia has very clear social system; their language have been read and understood perfectly and their palaces tombs and pyramids contain carving and painting about everyday life.

### **Material culture and Food Sources of Indus People**

Indus civilization has material culture like figurines, vessels, seals, grain charcoals providing dietary pattern i.e. food type, storing, cooking, and serving objects. The best fauna and flora record documented from Mehrgarh (6000–2500 BCE) in Baluchistan; Chanhudaro, Mohenjo-Daro (2600–2000 BCE), and Balakot (2500–2000 BCE) in Sindh; and Harappa (2600–1900 BCE) is located in Punjab. There are several sites in Gujarat and other parts of India are Rojdi, Oriyo Timbo, Babar Kot, Farmana, Kunal and, Loteshwar, Datrana and Kanmer (Bates 2019). The more sites are Girawad, Mitathal, Bhirrana, Rakhigarhi, and Rupnagar (Ropar) and many others. The diet data is about (i) grains spices and fruits; (ii) animals domesticated and hunted and (iii) freshwaters and marine fishes.

### **Grains, Spices and Fruits**

Amazingly, the research indicated that Indus people had used 260 edible species of grains, spices the oilseeds, and, fruits (Bates 2019). In total three tiers of the crops were available; first Tier contains the most common crops like wheat, barley and millets, second Tier plants has peas, lentils, oilseeds of flax, and jujube fruit. The third Tier of Weber's scheme is about melon and rice. Researcher have illustrated the Indus people had 62 types of spices used as food flavour additives examples documented from Balu and Farmana sites. Indus cooking spices has wide range from oilseeds of brown mustard, fenugreek, ginger and turmeric, garlic cloves, black pepper, nutmeg, cinnamon, and asafetida as a part of the Indus food flavors. The eggplant vegetables and fruits such as mango, date palm, sugarcane, banana with *Musa* sp. and *Vitis* sp. grape were the part of Indus people's diet (Bates 2019).

There were jawar, sorghum – bajra and ragi, chickpea dates grapes and cotton. All were available in Nausharo, Harappa, Chanhudaro, Kalibangan and Rojdi (Costantini 1990, Weber 1991, Vishnu-Mittre & Savithri 1982, Mackay 1943: 250, Vats 1940: 467, Costantini 1984: 32). The larger cities like Mohenjo-Daro had wheat barley, dates. Chanhudaro had Free-threshing wheat and Harappa had Free-threshing wheat, barley, melon dates (Vats 1940: 467). A variety of legumes (*Lens*, *Pisum*, *Cicer*, *Vicia*); the various millets (*Eleusine coracana* sp. *coracana*, *Panicum miliaceum*, *Pennisetum typhoides*, *Setaria italica*, *Sorghum bicolor* sp. *bicolor*, etc.), mustard (*Brassica* sp.), sesame (*Sesamum indicum*), linseed flax (*Unum usitatissimum*), and grape (*Vitisvinifera*), food crops were available for daily diet and brewing the wine. Oils extracted from sesame, mustard, and cotton was used for cooking and fuel of the lamp (Miller 1991). The plants also provided fodder for domesticates and fuel for cooking.

### **Animals Domesticated and Hunted**

Richard H. Meadow (1989) explains after investigating bones of locally domesticated animals belong to the 8<sup>th</sup> millennium BCE are the zebu cattle (*Bos indicus*), sheep (*Ovis aries*), and even goats (*Capra hircus*) gazelle (*Gazella bennetti*), and Asiatic wild ass (*Equus hemionus*), have been attested (Meadow 1989).

The research on bones and figurines confirmed utilization of twelve species as wild sheep (*Ovis orientalis*) and goat (*Capra aegagrus*) from the hills. The chinkara (*Gazella bennetti*) from the foothills and plains. The onagers (*Equus hemionus*) and blackbuck (*Antelope cervicapra*) from the drier plains. The nilgai (*Boselaphus tragocamelus*), large deer (*Cervus (?)duvauceli*), smaller deer (*Axis (?)axis*), boar (*Sus scrofa*), water buffalo (*Bubalus arnee*), wild cattle (*Bos namadicus*), and possibly elephant (*Elaphas maximus*) from better-

watered zones. (Meadow and Patel 2003, Meadow 1984b). The fox (*Vulpe sbengalensis*) living in bushy shrubby areas near cultivation in Savanna. The wild pig blackbuck, hare, and nilgai and other type of animals were also hunted from: (a) Thick woods/Forests (b) thin forests/Marginal Forests (c) Humid evergreen open jungles (d) Shrubs, savannahs, bushy areas near cultivation (e) Desert/ Rann/Sparse thorny vegetation (f) Wooded jungles, swamps and tall grass and found anywhere (Joglekar 2013).

The scientific research based on Lipid and starch grain analyses of millets, mung bean, grams and, wheat, sesame crops were native to South Asia. The lipid residue analysis of vessels showed that the animals like pigs buffaloes goats, sheep and Cattle (*Bos* sp.) were main herds for milk and dairy products.

### Freshwaters and Marine Fishes

Recently, a total of 44 fish species from Indus River flowing in Sindh and five marine species (Abro *et al* 2020). These spices are locally called as Gooj, Khago, Sengari, Talpo/paplet, Morakhy and Dhanbro in Sindhi (figure1).



Figure 1: *Bagridae* *Clupeidae* *Cichlidae* *Siluridae*

J. Bates (2020) investigated fishing methods and the efficiency of fishing net fiber for marine, estuarine and river fishing. The *Pomadasys argenteus* (silver grunter), *Labeo rohita* (carp) and *Epinephelus* sp. (sea bass/groupers) types of fishes were caught with such types of nets.

The fish motifs painted on the Indus Pots (figure2) and classified at least 50 fish or fishing motifs on the pots; man hold and throwing a net and fishes are shown standing near the net (Bates 2020, Belcher 1999).



Figure2: Fish sketches in Archaeological context and fishing in ethnoarchaeological environment

The fish bones found from Mehrgarh and Nausharo are associated with freshwater fishes identified as catfish and carp. Five marine or brackish water fish like carp, *Labeo* sp. and *Labeo rohita*, catfish, *silurid* catfish (*Wallago attu* and *Aorichthys* sp.), *bagrid* catfish (*Rita rita*), and *sisorid* catfish (*Bagarius bagarius*) have been recorded. The spiny eels, snakeheads and shad fishes were utilized as food and protein and fats best for fish oil/ghee. The seawater

fishes like grunters and tunas/ mackerels and marine catfish and jacks/trevallies dried, salted and traded in the Harappa city after more than 850 kilometers traveling distance.

From Allahdino 10 fish families and from Balakot a total of 7278 bones identified which attest the fish trade. William Belcher (2018) explicate the fish for fertility and represent as a female organ as fish goddess. Sanskrit literature associate rohita (*Labeo rohita*) and the sakala (snakehead, *Ophicephalus* sp) fish types with red giant star Rohini. The Jākata and Tantric Buddhist writings also mention a royal fish rohita (*Labeo rohita*). The fish prepared for queen to conceive a son as the universal ruler. The other fish types as *sakala* and *rohu* are promising types to offer to the goddess. The red mark on Hindu Woman confirms the marital fidelity (Belcher 2018).

### Feast or Eating pattern of Indus people

The eating pattern of Indus people have been thought out as similar as is documented in contemporary South Asia which consists of three meals a day like breakfast, Lunch and dinner. There are specific occasion where collective food is served in South Asia and contained direct connotation of feast, for example, *hkyrat*, *Sukha Niaz* and or *Parsad* etc. Hence, the 'feast' stand as a synonym of 'food' consumed by humans. The food is something to eat carries a definite process of cooking and involve the concrete factors (figure3).

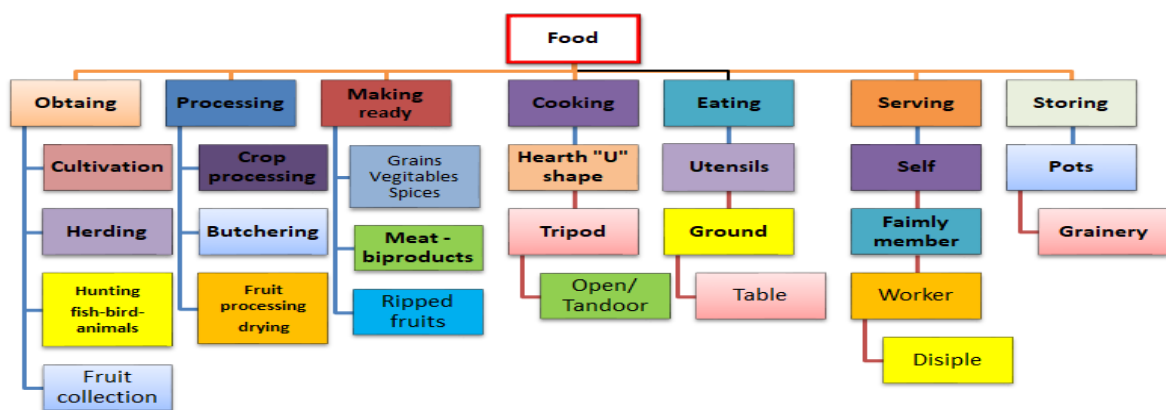


Figure3: Food Ways step sequence

Tracing the history of feast, Hirst Kirs 2018 defined the accounts of an anthropologist, Franz Boas in 1920 had early writings on feast. Ramond Firth in 1950 saw feasting as social unity. Malinowski viewed it as status and prestige. Sahlins in 1970s argue "feasting means of redistributing resources". Hastrof C.A. (2008) summarized feast as (a) celebratory and or communal; (b) patron-client; and (c) status and /or display (Hastrof 2008, Hirst 2018 [www.thoughtco.com](http://www.thoughtco.com) ).

The Archaeological research till date explain the traces of feast/food in storage items, utensils, burials in Royal Burials in ancient civilizations where the images of feasting shown in iconographic murals or paintings. Nowadays, the soil chemistry, isotopic analysis and residue analysis of objects like platters, bowls dishes pots and others can scientifically authenticate past knowledge of feasting/food ([www.thoughtco.com](http://www.thoughtco.com)).

### Foodways in Mesopotamian Civilizations

Archaeological research proved that Mesopotamia was great cereal producer of the grains barley wheat and several Fruits. Vegetables were lettuce, cucumbers, carrots, beans, peas, beets, cabbage, and turnips chick peas, vetch, lentil, beans eggplants, garlic and onions were their primary food resource. Sesame was for obtaining lamp oil. Around the 3rd

millennium BCE sesame was introduced to Mesopotamia, from Indus valley. Beer was the most popular beverage in ancient Mesopotamia (*Wikipedia*).

They had domesticated sheep and goat for milk, wool, meat and leather. They had hunted deer and gazelle and birds as diet supplement. They had domesticated geese and ducks for eggs. The Mesopotamian Cattle was different in breed than Indus Valley (*Wikipedia*).

Around the 1<sup>st</sup> millennium BCE the geese, duck, pigeons and chickens were introduced from Indus Civilization towards Mesopotamia. The Poultry was raised for the meat and eggs. Mesopotamian had used a large variety of fish at least 50 different species were utilized. They caught fish from the sea in Persian Gulf and from rivers, canals, lakes, and saline swamps (*Wikipedia*).

### Foodways in Egypt Civilizations

The poor and rich Egyptians ate vegetables in their regular meals (Adhikari 2019). The Legume included lupines, chickpeas, and broad beans were the part daily foods (Gill 2019, Adham- 2022). The bread and beer was commonly taken with vegetable and meat dishes. The fruits for the lower classes were figs, sycamores and date palms (Adham- 2022). Domesticated animals include cattle, sheep, and goats provided dairy products, and meat (figure4). The fish and poultry were staples diet of the poor (Adhikari 2019). The Geese, ducks, quail, pigeons, and pelicans and their eggs were also eaten. Cow's milk was used for ghee or butter. The fat and oil was used for cooking food.



Figure4: Hunting and ploughing depiction in 2700 BCE Tombs of Nefermaat & Menna (*cf. Wikipedia*)

They had 21 different vegetable oils mainly derived from ben-nuts and linseed sesame, castor, flax seed, radish seed, horseradish, safflower, and colocynth (Gill 2019; Adhikari 2019). They had spices like salt, aniseed, cinnamon, coriander, cumin, dill, fennel, fenugreek, marjoram, mustard, and thyme (Adhikari 2019). Salting of fishes and ducks was common in order to preserve them for a long time ([ask-aladdin.com](http://ask-aladdin.com)).

The Egyptians had diverse fruits and around 3000 BCE Grapes were grown for *jr* word for wine. (figure5). The Coconuts were imported luxury foods afforded by rich Egyptians (Adhikari 2019, Gill 2019).



Figure 5: Food and beer serving images in Egyptian civilization

### Feast/food Opportunities to the Indus People

Archaeological research has recorded thousands of settlements located within one million square kilometer region of Indus civilization. All settlements were strongly connected to each other through pervasive kin interaction network. Four categories of food resources were available to Indus people such as (a) through cultivation and collection like grains, vegetables, spices and fruits, (b) topography based like mammal herding and hunting (c) aquatic based like fishing and (d) supplementary like birds were exploited as staple and supplementary subsistence. However, the Indus people were familiar with honey and may have utilized.

### Cultivation or Crop System

As described above that Indus people had excellent varieties of foodways. The grain charcoals, residues on the pots, traces of plough field from Kalibangan and terracotta model of plough from Banawali and animal figurines demonstrate the deliberate agricultural system. During 2600 BCE to onwards, both the *Rabi* and *Kharif* crops were grown throughout the Indus regions (Meadow, 1992, Kenoyer 1991). The *Rabi* crop wheat, barley, pulses, mustard, masoor, peas and other vegetables were grown. *Kharif* has Rice, sugarcane, cotton, maize, mung, mash millets, bajra and jowar crops. The fruits like dates and melon were favored crops of this season. All explain that Indus people had nutritious food.

### Kitchen and Utensil Types

The kitchen is place where food is cooked and hence it carried a central role in human history. The cooking food involved not only the type of food to be cooked and eaten but the utensils in which food is stored, cooked and served. The kitchen generally involved four features as (i) storage vessels (ii) cooking utensils (iii) the hearth types and (iv) serving vessels. The extensive array of utensils is involved. Some features are described hereafter (figure 6).

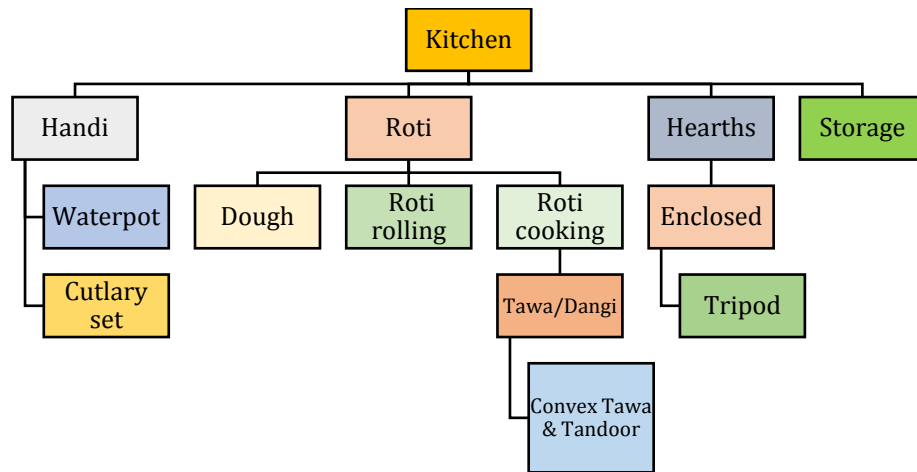


Figure 6: Kitchen activities specification chart.

### Cooking Utensils the Curry Pot

There is huge involvement of utensils for cooking purpose. The most important and regular cooking object is a *Handi* which is a pot in which the curry, rice or any type food is cooked (figure7). The archaeological remains of a curry pot have been found from Harappa during Ravi Phase dated as 3300-2800 BCE (Kenoyer Harappa.com)



Figure7: A Ravi Phase pot; B: Nausharo Baluchistan terracotta pot; C: metallic pot from Harappa D: Ethnoarchaeological pots (with thanks by Kenoyer)

Later on during 2300-2200 BCE, the shape of curry pots were slightly modified example from Nausharo Baluchistan, the upper part pot i.e. neck and rim is painted. The curry pots for wealthy families were made from metal as in 1940 Vats found from Harappa city. Jonathan Mark Kenoyer commented that two metallic pieces were combined together with cold hammering at the ledge place (Harappa.com - cooking vessel 75).

Archaeologically, cooking pot recognition is possible through the cracks occurred on them (Tite *et al.* 2001). The usage produces wear traces and micro soot deposits on either exterior or interior surfaces or the micro porous of interior surface absorb the organic residues can be studied. The remains of carbon or soot deposit can prove best evidences for recognizing a cooking pot (Tite 2008). Additionally, the organic residues provided information on how the cooking pots were actually used. The uniform spread of lipids on the



interior surface suggests the function of objects and the bowls carry meager presence of lipids, indicating that they were not used for cooking purposes (Tite 2008).

### Roti /Chapatti Making

As similar to curry, the bread traditionally known as *Roti* or *Chapatti* is another essential part of meal and is made in different ways, shapes and test. It is made from the flour of wheat, Bajra, Makai, Jawar and Rice. The most common type of roti is made simple and in round shape. Another type is layered roti made with clarified butter or ghee and is called as *Paratha*. For roti making process, or flour mixing for dough making, the rolling vessel, Tawa or tandoor are required (figure8). In sequence (a) water pot (b) dough making pot called as *Praat /Thaal*; (c) roti spreading or rolling plate and (d) cooking are required.



Figure8: Ethnoarchaeological cooking activities showing the kitchen setup and vessel types

### Dough Preparing Pot

The flour dough for roti making is prepared in a pot traditionally is called as *Praat /thaal*. It is a flat base plate or bowl for the mixing flour with water and waddle for some time to make the flour in elastic or flexible condition for preparing the roti (figure9).



Figure 9: Plates for different uses. a-b archaeological setting and c: traditional use

### Bread Preparing or Chapatti /Roti Rolling object

In contemporary traditional context; the roti is rolled over a specific vessel made of either wood, stone or terracotta in circular shape with or without stand so that the roti may not touch the ground and stay safe pure and or hygienic. Object found from Lakhianjo-Daro has flat and smooth top surface. Another similar type of object incised bird design is made on the base (Mallah 2017) (Figure 10). Nowadays, the chapatti is made on a circular object made of wood.

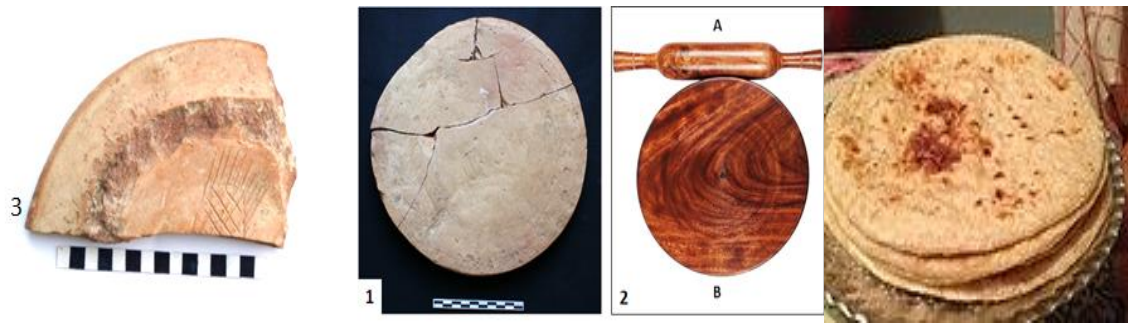


Figure10: A: Belan and Chakra and 1&3 found from Lakhianjo-Daro site 2600-1900BCE and Cooked Wheat bread

### Roti Cooking

For roti cooking three pots as (a) earthen plate (b) metallic flat plate and (c) convex metallic plate are used. The Ethnoarchaeological documentation suggest peculiarities for Roti /Chapatti cooking into four styles as:

- Roti Making on Stone and Charcoal
- Single Roti Making
- Multiple Roti Making
- Roti Making on Stone and Charcoal

The nomads of the Baluchistan still prepare the chapatti on the hot pebbles and kept very near to charcoals until roti is properly cooked for consumption (figure11).



Figure 11: Baloch nomads cooking the bread

### Bread Roti Making and Cooking

The single roti is cooked through two type's pots as (a) earthen plate (b) metallic flat plate. The earthen pot is in slight concave plate like vessel known as "*Daangi*". Another object is thick iron plate in circular shape known as '*Tava or Tawa*' in South Asia '*Saj*' in Arabia and '*Sac*' in Turkish (figure12) .



Figure12: 1: Palestinian *Saj*; 2: Arabian *Saj*; 3-6 South Asian *Tawa*

### Multiple Roti Making Vessels

For the large families and during any specific feast occasion; multiple breads are cooked on a *Tawa* or *Tandoor*. A *Tandoor* –having Dhol or drum shape made from clay in various sizes and fixed underground or kept at one place. Archaeologically, the *tandoor* can be traced back over 5000 years, in the Indus valley and Mesopotamian civilizations. During 2334–2154 BCE Akkadian word *tinūru* which is combination of two words as *tin* means “mud” and *nuru/nura* means “fire”. Both words are mentioned in the famous Akkadian Epic of Gilgamesh. In the other ancient languages like Avestan, Persian, and Sanskrit; *tandoor* was mentioned as *kandu* (figure13)



Figure13: A&C interior view and B exterior profile of the *Tandoor*

### Kitchen Store Utensils

There are numerous vessels types for Storage found from almost all types of settlements and are classified as (i) fixed and (ii) moveable Pots and Jars are for:

- Large pots for long time storage
- Short time storage
- Daily use

The first category contain the pointed base for fixing in house grounds and second category is moveable with either round or flat base. The large jars found from Chanhu-Daro, Harappa, Mohenjo-Daro, Lakhianjo-Daro and other sites are noteworthy for this purpose. The discovery context of jars from room floor of domestic structure having hearths suggest that these large jars are precisely fit for storage of grains dry items and drinking water. These jars are also fit for trade through ships along water routes. The pots discovered from Mesopotamia and Egyptian civilizations also portrait similar posture of daily life (Figure 14).

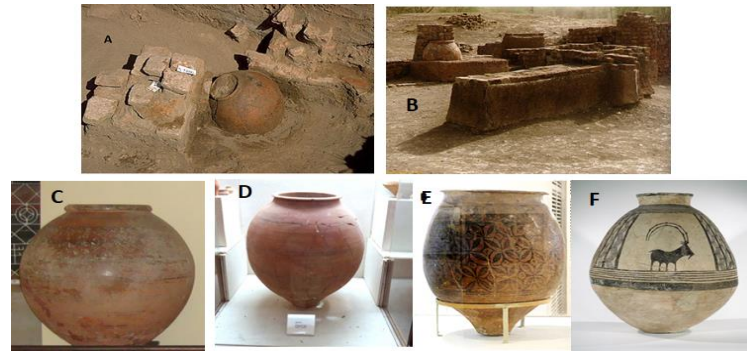


Figure 14: Storage jars, (A& C) Harappa (B) Lothal and (D) Mohenjo-Daro & Chanhu-Daro and (F) Halaf Mesopotamia 2700-2000 BCE.

### Hearth Types

For the culinary setup of kitchen; hearth play central role as all type(s) meal is cooked over the hearths. The hearths found from Ravi Phase Harappa (3300-2800 BCE), Urban phase Lothal Lakhianjo-Daro (2600-1900 BCE ) and other settlements represent very alike phenomenon as is perceived with contemporary traditional village settlements (figure15). The hearths of earlier prehistoric times were made and plastered with clay as are found from Lakhianjo-Daro and Lothal.



Figure15: Lakhianjo-Daro 2: Lothal and 3: traditional double chambered hearth

### Types and Kinds of Serving Utensils

Ethnoarchaeologically, serving chapatti, a flat base plate, for curry a bowl or any type of plate is required. During and or after the meal the water consumed. The water is served in glasses and cups. The basic utensil categories are:

- Curry cooking pot
- Plates
- Goblets
- Bowls
- Water jar
- Spoon
- Terracotta Table or Dish-on-Stand
- Sitting Platform

### Curry pot

There are two types of pots used for curry (a) pot for cooking and (b) pot for serving curry. The royal servings must be a good looking pot, for instance metallic pot in figure 7 discussed above must have made exclusively to maintain the class status.

### Water Pot

Water is frequently used throughout day, however, it is an essential part of meal for (i) washing hands and (ii) drinking during or after the meal and (iii) ceremony. The water is kept or stored into pots (figure 16) and served either in cups or glasses. The small to medium size pots serve the purpose efficiently and are frequently found from ancient settlements of Indus valley. The water-pot classification categorized as (a) glasses, (b) cups, and (d) small pots.



Figure16: Water pots in different sizes and styles

### Mugs /Glasses

Various categories of glasses were present with Indus People. The mugs convey at least three types:

Type-A: Tall in Vase Shape

Type-B: Pointed base Shape and

Type-C: Flat with Circular base



Figure 17: Goblets for liquid use

### Type-A: Tall in Vase Shape

This type goblets or vase shapes had served dual purpose as of jug and direct drinking (figure17). The Plain Water pot -3 is discovered from Kanri Buthi, Bahlol Valley (Harappa.com object#96) and pot-2 from Lakhianjo-Daro within Indus civilization and pot-

1 from Mundigak site in southern Afghanistan; now placed at Guimet, the French National Museum of Asian Art in Paris.

### Type-B: Pointed Base Shape

This category of goblets are common within cities and towns of Indus valley and are found in both plain and painted shapes (figure18). The variation is attested in their decoration and total make of body shape. The decorative elements contain flora fauna and geographical abstract shapes created at the central portion of body enclosed by parallel bands.



Figure 18: Glasses for liquid use

### Type: C

Some plain vessels rough in make having incised lines or grooves on exterior body for decoration and small stand as a base for hand grip or holding in hand. These small pots are popularly known as 'goblet'. These pointed base goblets are manufactured on a potter's wheel rapidly. No any quality is maintained.



Figure 19: Goblets for liquid use

### Type-D: Circular Base Shape

This is another category of drinking goblets. These are smaller in size with thin and straight rims like type "b" and are best for drinking liquid. It has wide open mouth and narrow towards base. The base is flat and circular and some of them have small stand as shown below (figure20).



Figure20: Gobelets for liquid use on the sale at <https://www.pipalpress.com> and at sty Hong Kong HKD572.36

### Bowls

The cups and bowls are entirely wide-open; their body profile is higher in slightly curvilinear. The designed depth of object further determines and differentiates among the prevailing classes as cup or a bowl. To establish the definition that any object or the vessel wide-open with deeper body profile with high/straight wall and rims would serve as bowl and any object smaller in size having similar profile would be a cup (Figure21)

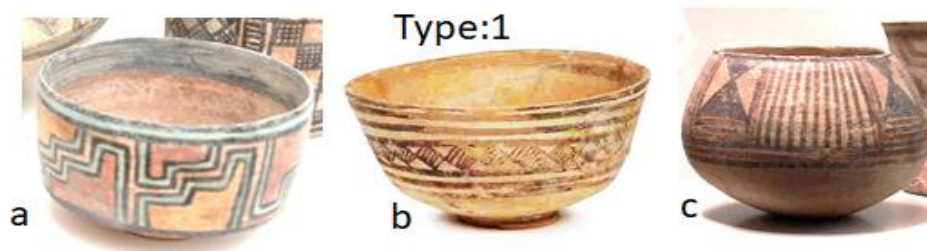


Figure 21: Bowls for liquid use

This is very unfortunate that the cultural objects are sold through web sources and can be seen or purchased at famous webpages named Ebay and several others.

### Plates and Dishes

These are extremely open with shallow bottoms mainly used for serving and eating meal (curry, chapatti, rice etc.) and fruits. The shape / form can be observed as given to the upper part of Dish-on-Stand. The plates vary in depth, size and shape. The object shallow and less deep can be defined as a plate.



Figure 22: Terracotta plate and Bronze plate (Cf. Harappa.com)

The plates are found commonly manufactured from clay, bronze and stone. Some of the plates are decorated and others have been left plain. The decorated plate is found from Harappa in the cemetery context associated with Cemetery-H suggesting that the plates are also utilized for rituals as well.

### Storage Items

The grain storage specifically have remained main part of discussion with many archaeologists. The grain stores found in ancient civilizations called as 'granaries' were door less facilities on the ground. The painted pictures and images from Mesopotamia and Egypt show that the granaries are filled by people using ladders for pouring the grains through roof. Such type of door less rooms are found from settlements in Indus Valley like Mehrgarh and Amri. Later on the rooms with doorways were used as store and warehouse, for instance, granaries at Harappa and Mohenjo-Daro.

This type of bulk storage was only possible when an authority might have controlled the grains and storage for further usage according to their wishes and their strategies. This situations demonstrate total social inequality and stratification. Nevertheless, the large jars are another way of storage in lesser quantity and would be more reasonable to explain the context of daily meals and daily survival. Thus the present focus is on the pots and jars for their utility nature and storage capacity.



Figure 23: Large water pot from Mohenjo-Daro 2600-1900BCE

At least three types of large jars are documented such as (a) narrow mouth (b) large mouth and (c) open mouth like bowl. The first type of jar have been very suitable for liquid storage and second one appropriate for solid items like grain and dry fruit storage. However, the open mouth bowl like pot may had multiple usage such as solid, liquid and cooked food for further distribution(s). The scientific investigations, such as, residues, lipids and soot analysis can show the usage authenticity.

### Behavioral Analysis of Feast Furniture

The Behavioral archaeology now a days is considered for the study of the formation process and reconstruction of the past activities (LaMotta and Schiffer 2001:14). The "people-object interaction" can be totally general and/or totally specific in activities from the make to use and to dispose (LaMotta and Schiffer 2001:20). This understanding interpret the behavior of people (Tite 2008). In this endeavor, the vessel are classified into three types of behavior as (a) technical (B) commercial and (C) socio-religious.

### Technical Behavior

The analysis of utensils for technical behavior is generally based on the morphological examination of any desired object. The shape, size, interior and exterior surface treatment of each utensils is associated with technical behavior and involve a sequence of operation(s) *chaine operateure* to finalize the object. All stages from obtaining



raw material till use and discard has huge impact on several micro processes. The tool types, labor and care are involved. For example, it is traditionally observed that several objects are made through two processes as (a) On the wheel and (b) Off the wheel. In the decoration parallel and zigzag bands, incised lines are prepared on the wheel or through rotating device. The polychrome paintings contain intensive manufacturing and paintings

### Contemporary Use of vessels

The use of ceramic was integral to all communities of Ancient world. The ceramics were part of everyday life, social and ritual activities.



Figure 25: Various kitchen utensils

Both Archaeological and Ethnoarchaeological documentation and research has shown that

- The large storage jars without painted designs were to keep water or grain.
- The elaborately painted pots may have been for elites, wedding gifts or used for ritual purposes. Smaller drinking vessels with flat bases may have been used in the home for every type of liquids.
- Bowls for cooked food or liquids.
- The plates used for eating.
- The Dish-on-stand (DoS), bowl –on-Stand (BoS) were used for serving cooked food and /or fruit to the high status persona(s) or for daily and /or ritual offerings.
- Perforated cylindrical jar wrapped in cloth was used as strainer for the preparation of fermented beverages.
- The pointed base goblets were very commonly made and were used for water, milk, buttermilk *Lassi* fruit juice and liquor
- Cooking pots were made in different sizes from small pots to extremely large vessels that have been used for cooking community feasts. Such vessels were painted with red or black-slip rim with one or two ridges. The other properties of Indus cooking pot is strong outward projecting rim for handling on heat of hearth.
- The metallic like copper and bronze objects for instance, plate found from Mohenjo-Daro and cooking pot from Harappa were used by wealthy and powerful elite class (Kenoyer 1998:156).

### Utensils and Commercial Behavior

The urban phase of Indus civilization has large population living within at least seven mega cities, hundreds of towns and thousands of villages. The division of labor or works is visible as seen in pottery making Industry. The ceramic analysis has shown that large pots and jars are manufactured into stages and took considerable time, for instance, the dish-on-stand was prepared into three parts (a) base (b) stand and (c) upper plate. All parts are then

put together and required a skill. Hence it became uncommon expensive object. The exchange system of Indus valley is not retrieved yet, but the ethnoarchaeological observation show two systems (i) sale of objects and (ii) distribution or sharing the pots with other artisans and farmers. The artisan would provide him/her their objects and farmer a fixed share from the crop i.e. grains and other things. This way they operated their business.

### **Utensil for Socio-religious Behavior**

The ceramics from the cemeteries of Harappa and Mehrgarh suggesting some type of afterlife religious faith. The burials are found from number of settlements Harappa Sibri (Santoni 1981), and Rakhigarhi (Shinde et al 2018; www.Harappa.com), The painted pots with intensive decoration take longer to paint the designs illustrating social and ritual symbolism. On the contrary, less decorated pots reflect the economic, social and ritual status (Kenoyer 1998:153).

### **Conclusion**

The overall investigation of present data set showed Indus people during 2600-1900BCE had highly complex society as is seen in Mesopotamia and Egypt. The cultural complexity is tried to explain through foodways. Indus people had eating excellent dishes made from wheat, barley, rice, meat/mutton birds, and fishes of freshwaters and marine. A wide variety of cooking vessels are discovered and documented. As analyzed through present studies that the shape of cooking pot *Handi* is totally distinct and different than other pots of Indus valley. The shape and manufacturing material verifies the social stratification visibly. When simple notions are attached as:

- The simple pot without decoration for lower class
- The painted pot made with little care for elite and wealthy class
- The bronze *Handi* exclusively for upper class

Cup, glasses, bowls, water pots and Plates all demonstrate the social dichotomy. There is very clear variations in make and quality of the objects made for elite class and common class. The Dish-on-Stand is a terracotta table for use of specifically elite class and is not frequently found from all site but only urban level site has traces of this type object. The initial data examination elaborated that the Indus had very complex social stratification consisting a definite class system as is seen in Egypt and Mesopotamian communities.

### **Recommendations**

The exact function and used of vessels and other objects is now possible to determine through scientific analyses. The recommended analyses are Organic residue analysis (ORA), included in biomolecular analysis for identifying food remains. The use wear traces and micro soot deposits on either exterior or interior surfaces or the micro porous of interior surface which absorb the organic residues and can be studied (Skibo 1992, Tite 2008).

The analysis of strontium isotopes preserved biological tissues in the teeth of domestic animals have been used to reconstruct past human-animal relationships (Chase *et al* 2018). Ancient protein analysis can be defined from archeological remains and materials. Mass Spectrometry (MS) approaches are based on detecting the presence or absence of particular proteins on ancient objects. All are useful for scientific analysis of material culture of a given ancient societies.

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