

Analysis of Multicultural Factors in Prehistoric Archaeological Materials in Kashmir

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Abstract

Previous archaeological research has highlighted connections between discoveries from Kashmir, Central Asia, and West Asia as well as other regions of wider South Asia. However, the relationship between Kashmir and the Tibetan Plateau is poorly understood. To explore the cultural relationship between these two regions, we compare multiple archeological evidences, including dwelling pits, pottery, bone, and stone tools from two Neolithic sites of each region. This research deepens our understanding of prehistoric interaction across the Himalayas.

Keywords: Tibetan Plateau, Kashmir, Prehistoric archaeology, material culture, pottery, lithic.

1. Introduction

The South Asian subcontinent has an extremely diverse history starting with the Paleolithic to Neolithic phases and continuing to the historic Buddhist, Mughal, and British periods, making this area rich in culture; also it is an ideal area for cross-regional interaction. Kashmir's geographical location is quite pivotal as it connects inner Asia to South Asia and further with Central Asia.

In the context of archaeological research, the most revelatory and significant period in the earliest history of Kashmir was the Neolithic period. Previous research of archaeobotanical evidence and material culture indicate that Kashmir has a close connection with sites in Central Asia and Southwest Asia since prehistoric times (Spengler 2015: 215-253, Spate et al. 2017: 568-577, D'Alpoim Guedes et al. 2014: 255-269). Kashmir also had interregional interactions with sites during the Early Harappan period (3300-2600 BCE), the exchange probably lasted up to the later Harappan period (2600-1900 BCE). In support of this argument, Law identified the presence of Galena lead, which was used by the Harappans and was brought from the Baramulla district of Kashmir (Chaolong 1988: 139; Kaw 2004: 22) (Law 2008: 758).

In Sarai Khola (Taxila) period I, the same types of vessels with basket impressions and shapes similar to those from Burzahom and Swat are significantly predominating (Stacul 1976: 28). Mughal also connected Sarai Khola period I with Neolithic features of Burzahom (Mughal 1972: 1-112). Swat and Kashmir valley are corridors of exchange and communication through the Hindu Kush Mountain and they have dense archaeological remains, including farming village sites that dated roughly to 2500 cal BCE (Spengler 2020).

Kashmir had developed social and communicative connections with northern and central parts of the subcontinent through exchanging raw materials or products, such as pottery, stone tools, and beads, as witnessed by the finding of Kot Dijian pot with a horned figure painted on the shoulder of the vessel (Mani 2008), from Burzahom phase II (Fig. 1), further strengthens the idea of interconnection extending to the southern parts of the subcontinent.

Similarly, it is stated that the presence of agate and carnelian beads at Burzahom show that it had trade links with the Indus Valley people, who brought the raw material from Afghanistan and Central Asia (Chakrabarti 1999: 215; Law 2008: 86). Evidence in the form of human skull trepanning also indicates connectivity between Kashmir and the northwestern part of India. The Kalibangan site, where a skeleton with skull trepanning was unearthed, is present in India's northern state of Rajasthan. A similar square hole on the right temporal skull of a child aged nine to ten years was found in Lothal, a site located in the western part of India (Sankhyan and Weber 2001). However, limited sites were identified in the subcontinent, where human skull trepanning was found. This practice was not common in the Indus Valley Civilization. Whereas, the same practice was discovered to be quite common in China where pieces of evidence of skull trepanning were extensively found from the Tibetan Plateau and also from low lands of China. At the same time, the presence of double-spiral-head copper pins has been found from Burzahom (Thapar 1979-74: 15), Gufkral (Sharma 1982: 34), Manda (Jammu). These sites are logistically closer to each other and share many similar traits. However, they have shown limited similarities with other contemporary sites in the same region of the subcontinent. A double-spiral-headed pin of the same style was unearthed from Banawali in Haryana (Abraham et al. 2013: 223-238). It is suggested that double-

spiral-headed copper pins may have been originally brought into the subcontinent from Central Asia.

Furthermore, there are many factors in the Neolithic culture of Kashmir which are extremely rare in the South Asian subcontinent of the same period but are very similar to the Neolithic cultural contents of the Yellow River Basin in Northern China (Chaolong 1988: 137). According to the *Nilamata Purana* and the *Rajatarangini*, during prehistoric times, several tribes of the Kashmir Valley, such as the Nagas, the Pisacas, and the Yakasas used to migrate to Tibet and Central Asia in the summer and returned to the Kashmir Valley in the winter to avoid the harsh weather conditions of Tibet and Central Asia (Buth et al. 1987: 57-64). According to Han research the concept of long distance sino-western exchange lasted from the 4th to the 1st millennium BCE, with four stages that was c. 3500 BCE, 3000 BCE, 2200 BCE, and 1300 BCE. During these remarkable stages, Chinese painted pottery was transmitted from East to West. Moreover, he also discussed the penetration and distribution pattern of Yangshao culture to the western and Southern Tibetan Plateau (Han 2012: 25-42).

Similarly, Kashmir also had some cultural and social connections with the regions to the northeast where the Tibetan Plateau has an extensive history. However, limited research has been conducted on this front in the subcontinent. To bridge the gap between Kashmir and Tibet, this article presents a comparative analysis of multiple archaeological pieces of evidences from sites in Kashmir and Tibet.

The sites selected from Kashmir for the present study were Burzahom and Gufkral, which were considered to be the most important sites because they have been extensively excavated and well-studied through their cultural remains. Whereas Karuo and Qugong were selected from the Tibetan Plateau, for the same reasons, and these sites are also considered somewhat identical due to their material culture findings such as stone tool technique and pottery decorations, which indicated that the two regions share the same cultural roots. However, it is suggested that Qugong had developed from the same ancient culture related to the Karuo culture (The Institute of Archaeology, Chinese Academy of Social sciences and The Bureau of Cultural Relics: 269). The Karuo site predates Qugong, according to carbon 14 dating results, and has some unique artifacts such as polished stone tools; sharps bone tools, and pottery decoration such as incised, punctuated, and applied patterns which were rare and have never

appeared in Neolithic sites in other parts of China (Gao et al. 2020: 7). Although, the different levels of excavation at Kashmir sites, reveal the presence of both the unique Karuo style artifacts and others from later-era Tibetan sites. This proves the fact that Kashmir exchanged cultural aspects with Tibetan sites in different eras.

2. Archaeological sites in Kashmir

Burzahom

Burzahom is the most important Neolithic site which was extensively excavated from 1960 to 1971 in Kashmir. The site is located in the Srinagar district about 24 km north-north-east of Srinagar city (Fig. 2). The first excavation was carried out by Shri Khazanchi with Shiri Srivastava and Shri Raghbir. Later on, follow-up excavations were conducted by different excavators. Their brief progress reports were published in (ASI annual report 1960-61, 1961-62, 1962-63, 1965-66, 1968-69, 1973-74). The excavations revealed four occupational sequences i.e. Neolithic in the first and second periods, Megalithic in the third period, and early Historic in the fourth period (Ghosh 1961-62: 17). The absolute dates of the spread of Northern Neolithic culture in Burzahom ca. 2300-1500 BCE was published in the ASI annual report (Ghosh 1965-66: 87). The latest research produced by Agrawal and Kharakawal (2002: 184), propose an Early Neolithic period ca. 2500-2000 BCE, Late Neolithic Period ca. 2000-1500 BCE, and Megalithic Period from ca. 1500 to 900 BCE (Betts 2019:19).

Gufkral

The Gufkral site was excavated in 1981 and is 25 km from Burzahom (Fig. 2). Gufkral (Guf meaning cave and Kral meaning potter) is at Banmir village in the Hurdumir area of Tral. It is 5 km from the sub-district headquarter. The site is situated 41 kilometers southeast of Srinagar in the district of Pulwama (Fig. 2). The excavation revealed five occupation levels; Period I subdivision IA belonging to Aceramic era, whereas early Neolithic in the IB period, late Neolithic in the IC period, while Megalithic in the period II and Historical era are discovered in the period III (Sharma 1982: 25). According to radiocarbon dating of Period IA

Aceramic dated 3130±100 BP, Period IB dated between 3980±120 BP to 3470±110 BP, Period IC 3570 ±100 BP to 2790±110 BP (Sharma 1982: 40). The latest chronology of Gufkral reports as IA ranging between 2700 and 2400 BCE, while the period IB extending between 2400 to 2000 BCE, period IC is between 2000 and 1700 BCE and period II, belonging to the Megalithic era, encompasses 1700 and 1000 BCE (Betts et al., 2019: 21).

Archaeological Sites on the Tibetan Plateau

Karuo

Karuo lies 12 km to the south of Qamde city, in eastern Tibet (Fig. 2). This site is located on the second terrace, west of the bank of the Lancang River at an elevation of 3100 masl. Two seasons of excavation (1978-1979) yielded the remains of 28 dwellings, two sections of cobbled road, three sections of a stone wall, two stone circular platforms, three stone circles, four ash pits, 7968 stone tools, 366 bone artifacts, over 20,000 pottery shreds, 50 ornaments, and some remains of millet and animal bones (Tibet Autonomous Region and Department of History, Sichuan University 1985: 175). The site is dated to the period 2800-1000 BCE. The Karuo culture has some similarities with the primitive cultures of Gansu, Qinghai, and the eastern border areas of the Tibetan Plateau. These similarities are reflected in pottery style, pit dwelling, stone tools for example similarities are observed in pots and bowls, willow leaf-shaped and triangular-shaped arrow clusters, semilunar stone knife, trapezoidal stone axe, double-edged stone chisel, bone cone, the ground structure of a wall, and rectangular flat roof house (Zheng and Jian 1982).

Qugong

The ancient site of Qugong is located to the north of Qugong village, 5 km north of Tibet's Lhasa city, 300m west of the famous Sera Monastery of the Yellow Sect. The site was excavated from 1990 to 1992 (Fig. 2). It covers approximately 10,000 sqm (The Institute of Archaeology Chinese Academy of Social sciences and The Bureau of Cultural Relics Tibet Autonomous Region 1999: 267-272). The entire excavated area was divided into two zones. The Qugong site was divided into three phases based on stratigraphy and typology. Phase I relates to the early phase in the zone I, phase II belongs to the late phase in zone I whereas, phase III refers to the 29 stone-chambered tombs from zone II (Gao et al. 2020: 3).

Artifacts revealed from phase I was mostly stone flakes in a large percentage, whereas the polished stone tools occur in second high quantity, and microlithics only in limited amounts. The polished stone tools included the comb-shaped object, sickle, knife, and grinding stone. On the other hand, pottery vessels revealed jars with round bottom and ring foot. Whereas, six jade objects and one bronze arrowhead were also recovered (Institute of Archaeology, Chinese Academy of Social Sciences, and the Bureau of Cultural Relics, Tibet Autonomous Region 1999). According to the report, the early phase dated 3480-3169 cal BP (Gao et al. 2020: 4).

It is very important to note here that according to the chronology given by carbon-14 dating, Qugong came into existence after Karuo. The former dates back to 1759–1500 B.C. (calibrated with the starting point estimated at 2000 BCE), while the later dates back to 3340-2400 BCE and lasted nearly a thousand years. Although there was no inheritance between these two cultures separated by a chronology interval, yet they do have numerous similarities in their material culture as noted by the Institute of Archaeology, Chinese Academy of Social Sciences, and the Bureau of Cultural Relics, Tibet Autonomous Region (1999: 267-272). Another interesting feature is the presence of bronze metallurgical technology in pottery that reflects the maturity of Qugong's pottery-making technology. This too corroborates other evidence that the Qugong site had existed later than Karuo site. Other sites associated with Qugong culture are the Changguogou site, located in the south of Lhasa on the north bank of the Yarlung Zangbo River, and the Bangga site situated in the Yarlung Valley (Fig. 2). The archaeological assemblage, especially the ceramics, at Changguogou is very similar to the one found at Qugong. Excavation at Bangga has unearthed one rectangular semi-subterranean house with 24 sqm of covered floor area, a stone-lined interior storage pit, and ceramic similar to Qugong. It is suggested that this site is a part of the Qugong tradition. Unfortunately, the research work regarding the great bend area of the Yarlung Zangbo is limited (Alsenderfer and Yinong 2004: 1-55). This causes a break in the pattern of similarities between Qugong and its surrounding areas.

3. Comparative Analysis of multiple material cultures between the Kashmir Valley and the Tibetan Plateau

Dwelling Pits

Securing oneself from weather effects and other external threats is also a unique feature of human civilization that enabled humans to create such structures. The study of different excavations has revealed similarities in structures which have been discussed below to establish interaction amongst residents.

In the Burzahom period I circular, square (with flat bottom), and conical-shaped pits are revealed (Ghosh 1961-62: 17-19, Yattoo 2012: 82). It is also believed that the earliest settlers of Burzahom were pit dwellers. The excavation revealed that the habitants of the period I cut the pit into the upper Karewan bed directly into the natural soil. The depth of pits approximated 1.5 meters while these were uneven circular and oval in shapes (Ghosh 1960-61: 11). The largest of them measured 2.74m at the top and 4.57m at the bottom and 3.96m in depth (Ghosh 1961-62: 17-19). The concept of human dwelling in these pits was strengthened by the fact that the pit was contracted at the entrance and expanded in the floor area which was usually plain and balanced with accumulations of ash and charcoal. The provision of landing steps in deep pits was the noteworthy architectural feature of these pits. The presence of shredded stick stems with holes to hold posts in the ground above the pit suggests that the pit held some sort of roof structure made from untreated natural items (Ghosh 1960-61: 11). The close observation revealed that the post-holes in the corners were deeper and broader as compared to the remaining (Lal 1968-69: 10). It is reasonable to suggest the former carried posts to support the roof. It was observed that the inner walls of the pit were coated by the mud of Karewa soil. The three exposed landing steps from the entrance of the pit had a reaching of about 1.5m which raises the probability of usage of some movable staircase (Ghosh 1961-62: 17-19).

There existed a smaller pit in crescent shape, besides the wide pit behind a separation wall of natural soil. The evidence gathered from its contents suggested that the smaller pit was used for storing birch, shredded hay, etc. This fact is reinforced by the findings of inverted broken pots and harpoons made from bone. The findings on the ground surface near the pit entrance exhibit stone structures with narrow storage holes having a

diameter of about 91 centimeters. Based on these evidences it can be gathered that residents shifted on the ground surface when the weather was clear (Ghosh 1961-62: 17-19).

The overall pit residence complex showed three phases, whereby it is pertinent to note that every next phase the size of the pit increased. In period II the floors of the entire pit complex formations were observed to be sealed from mud mixed with charcoal and ash.

The remains from the Burzahom period II site show a gradual change in pit-dwelling from subterranean dwelling pits to mud-brick structures. This dwelling pattern suggests either an increase in population or a preference for community living patterns (Fig. 3a) because multiple structures of such rooms were found. Certain resemblances in dwelling pits were discovered between Gufkral and Burzahom sites such as the circular shape of dwelling pits and the use of stone and clay hearths at their center (Sharma 1982: 26). It has also been suggested that these circular pits could have been used to store surplus food. The layout of these pits is very similar to those found in some of the villages belonging to the Neolithic period in China.

Karou's early dwellings fall into three categories: concave-based dwelling, semi-subterranean dwelling, and plane-based dwelling. They are square, rectangular, and circular in structure as illustrated in (Figs. 4a, 4b, and 4c). A similar style can be observed in the Burzahom dwelling pit. In the middle of the pit, there is a hearth made of multiple stone boulders, and some of its structures are surrounded only by three stones. This kind of stove is not found elsewhere in the Neolithic sites in Tibet (Kaw 2004: 14-17; Zheng and Jian 1983: 54-64). The inner surface of the walls was baked in the fire so it gives the color of baked red. Whereas, in the later phase the surrounding walls of the dwelling pits were made of stones with the irregular placement of the stones and the thickness of the wall was not identical to what has been mentioned in a statement issued in 1985 by the Bureau of Cultural Relics, Tibet Autonomous Region and the Department of History, Sichuan University. There are numerous similarities, though, in the structure of the pits at both sites. For example, the pits interior and the surroundings of Burzahom's postholes precisely resemble those of the pits found in Karou as shown in (Figs. 3a, 3c, 4a, and 4b). Square and rectangular pits with multiple boulders of the stone hearth in the center are the other common features. In Burzahom's dwelling pits, a thin layer of red material was found to have been applied on the inner surfaces as walls

and floors. However, in Karou, this red color can be witnessed only on those walls where burnt clay was used, which gives the latter an affinity with burnt red bricks. The later phase at both the sites shows that the pits' boulder walls were made of stones with a compact installation as shown in Figs. 3b and 4c.

At the Qugong site, the structure of burial pits is round in their early layers (and occasionally oval) and steep. In most cases, the walls are vertical and the bottoms are flat and covered with pebbles along their perimeters (Fig. 4d). Overall, the structures of Qugong site's pits give them an appearance that is comparable to the pits found in Karou and Burzahom.

Pottery

The use of utensils for cooking, storage, and carriage, dates back to the pre-historic era. The excavations reveal close patterns in pottery shapes and designs, which may have been a result of trade and travel.

In the 3rd millennium cal. BCE first pottery appeared in Kashmir valley following aceramic horizon at Kanispur and Gufkral, the basic ceramic assemblage dominated by coarse wares in the early Neolithic c. 2500-2000 cal. BCE, with the introduction of fine wares and burnished wares in the late Neolithic c. 2000-1700 cal. BCE (Betts et al. 2019: 27-30). Four primary wares were represented in the ceramic repertoire: Coarse ware (c.2500-2000 BCE), Fine ware, Burnished ware (c. 2000-1700 BCE), and Gritty ware (c. 1700-1000 BCE) (Yatoo 2012:83, Betts, et al. 2019: 17-39).

Gufkral's period IA revealed the aceramic Neolithic period. The IB period reveals a variety of different-sized jars, basins, and bowls belonging to the Neolithic era, most of which were grey while a few traces of light red colored pottery were found. These were decorated with basket impressions and strained designs on the outside and inner surfaces. Pottery was completely oxidized (Sharma 1982-1983: 32). Period IC belongs to the mature Neolithic period; pottery consisted of burnished grey ware, and rough thick dull redware, along with the introduction of black burnished ware and wheel-turned black burnished ware. A few specimens of red gritty were also found. All the shapes of period IB sustained with the introduction of long-necked jars, dish-on-stand with triangular perforated designs. Decorations comprised mat impression on the bases, reed

impression to create a rough surface, pinched designs and incised designs on the neck in dull redware, knobbed designs on the neck region of the wheel-made black burnished ware. A sherd with graffiti was also revealed (Sharma 1982-1983: 33-34). In period II, pottery of the previous period I such as burnished grey ware, gritty redware, and thick dull red ware survives with the addition of thick dull redware. Shape include basins, jars with shapeless rims, dish-on-stand, long-necked jars, bowls, vessels with channeled spouts and, globular jars. The decoration included pinched and incised designs on the neck and combed designs were obtained on the surfaces by burnishing with straw and reed (Sharma 1982-1983: 37). In period III, handmade pottery continued along with the dominance of wheel-made redware. Shapes included jars, bowls, lids with bowls, lamp vases, knobbed lids, double-rimmed pots, dish-on-stand, and miniature pots. A few sherds of black painted redware with carved designs were collected (Sharma 1982-1983: 37).

In Burzahom period I and II, pottery was categorized by rough handmade greyware, and was represented by the bowl, vase, and stem (Ghosh 1961-62: 19). Period II reveals a burnished blackware of medium texture. It included a dish sometimes with provision for a stand, jar, bowl, a funnel-shaped vase, globular vessels, and stem with triangular perforations. A unique type in the grey or black polished ware was a high-necked jar with a flaring rim, spherical body, and flat base. On the lower part of the neck were carved slanted cuts. Mat impressions formed exclusive designs on this ware. The pottery of period III, predominantly of redware, was mostly wheel-made, with coarse fabric (Ghosh 1961-62: 19). Period IV, roughly dated earlier than the Buddhist site of Harwan to the third-fourth century CE, yielded redware of fine-to-medium fabric, often slipped and mostly wheel-made (Ghosh 1961-62: 17-21); this pottery is crude and handmade and had a coarse fabric and finish. The vessel's bases were mostly flat and they had mat or basket impressions on them, which suggests that this is how they kept their pottery for drying. This also shows that Bruzahom's Neolithic ancestors had a very advanced level of weaving technology. Such mat marks on the bottom were also seen in the pottery found at the Sarai Khola and Swat sites (Halim and Mughal 1972: 36, Stacul 1976: 28). This aspect has not been found in the pottery excavated from other parts of the South Asian Subcontinent, but it is quite common in the Neolithic pottery in China. It is important to mention here that comparing Burzahom and Karou pottery on technical aspects is not

justified because Karou's pottery industry was more developed technologically. Although they also had handmade and crude pottery, their kiln-firing technique was considerably established and flourished. However, the pottery from these two sites can be compared based on typology because their designs either suggest that they are related to the same culture or that they exercised some influence on each other.

Thus, for instance, the incised and applique designs including zigzag, crisscross, bands with twisted motifs, triangular chevron motif, etc. are common to both. The clay band with a twisted motif design can be seen on the vessel's mouth or neck in some cases and on its middle (convex) part in other cases (Fig. 5). This decorative technique of using such bands to hide the joint of the vessel was very common in Karou and suggests that they did not develop the wheel-turning method during periods I and II. Qugong pottery, on the other hand, was rather matured around this time employing techniques such as wheel-retouching, molding, decoration, and firing. Hence, the pottery that must be compared is handmade pottery, which includes double-handled jars, high necked and long-mouthed jars, basins, and round bowls. For decoration, this pottery had surface and pattern burnishing, pricking, incisions, etc. and its main motifs included single and double lozenges, dots, crisscross, triangles, circle networks, and applied designs.

It is essential to mention here about the Qasim Bagh site in Baramulla district which lies around 1.5 km southwest of the Hygam Wetland Reserve in the northwest corner of the Kashmir Valley (Fig. 1). This site was first identified during a transect survey by Yatoo (Yatoo 2012). Several large conical pits were discovered at this site. The key pottery types found here included elegant ceramic such as bowls, basins with burnished interior or exterior, jars with narrow necks and widely splayed rims, and elongated pedestal vessels. Further, some pottery pieces had distinctively carved triangular designs on their stems and rims and finely incised triangular punctate decoration (Betts and Yatoo 2019: 23-24). The characteristic features of the pottery recovered from Qasim Bagh are similar to those of the Qugong pottery. Their shapes and their surface decorations as shown in Fig. 6 demonstrate their affinity.

At this point, it is vital to also mention the very significant site of Sarai Khola, an influential and historically symbolic site in Taxila, Pakistan. This site is always compared with other sites of the region to identify the origin of the inhabitants of the sites. The significance of Sarai

Khola also lies in the variety of evidence that was found here that helped identify the existence of different cultures and also proved that its inhabitants had cultural and social interactions with the surrounding regions. According to Mughal's research, the Sarai Khola site has some influence on the Burzahom and the Yangshao cultures of China (1972: 37). Some of the main similarities between Burzahom, Sarai Khola, and Yangshao include handmade pottery either with basket impressions on the base or with incisions on the external surface. Another similarity is the presence of elongated trapezoidal, rectangular, and cylindrical celts. A third similarity is an abundance of bone tools.

The red and grey wares with basket impressions, which are associated with the Yangshao culture, were also found at Burzahom and Kashmir's other contemporary sites where pottery with basket and mat impressions, mostly grey and sometimes red, was common. In Pakistan, Neolithic pottery with basket impressions on the base was found only at Sarai Khola, Swat, and Kile Gul Mohammad nowhere else, but the discovery of bone implements has been reported from Gumla in the Gomal Valley.

Since China's Yangshao Neolithic culture has been recorded to be the earliest dated (5000-3000 CE) when compared with Sarai Khola and Burzahom, it appears that the latter two settlements represent two separate extensions of the long tradition of the former. Evidence of the earliest Chinese influence on Sarai Khola and at other places in the Taxila Valley is dated around the second to the first millennium CE. The second evidence was found during a later period at Burzahom in the Kashmir Valley (Mughal 1972: 37).

To sum up the discussion in this section, we have seen homogeneity in the pottery found at the Neolithic sites in Kashmir such as Burzahom, Gufkral, and Qasim Bagh on the one hand and the Neolithic sites in Tibet, on the other. They are homogeneous concerning their physical features such as shapes and styles of decorations. The mat and basket impressions that are a common feature of pottery found during Kashmir's Neolithic period were seen in the pottery found at the Tibetan sites as well. The presence of graffiti on the vessels is a notable aspect of material culture that was found at the sites, both in the Kashmir Valley and on the Tibetan plateau.

Stone Tools

Burzahom pit deposits yielded noteworthy stone tools including polished stone axes (Thapar 1973-74: 15), and further consisted of harvesters, polished pounders with grinding marks, chisels, and mace-heads (Ghosh 1961-62: 21) smoothed surface and stone querns (Lal 1968-69: 10). They are typologically different from their southern counterpart (Ghosh 1961-62: 21). The tools that were particularly important for the comparison undertaken by this study were polished stone axes, chisels, and harvester stones. These were the remarkable artifacts that showed a striking resemblance with similar tools found at the Karuo and Qugong sites. The stone axes and chisels found at the Burzahom site are rectangular having a cross-section cut as illustrated in Fig. 7.

The stone axes found from Karou have a similarly smooth and polished finish and pointed edges. The stone axes and chisels recovered from Qugong were skillfully made from stone flakes, initially by hand, and later chipped with a hammer, too have a polished finish. Another noteworthy object depicting cultural similarity is the stone harvester tool. It is rectangular-shaped and has a curved cutting edge with one or two small perforations on either side of the cutting edge as shown in (Fig. 8). This tool was not as commonly found in Burzahom and its contemporary sites in Kashmir as was the case in Karou where it was considered the most important stone industry tool. This harvester tool with holes for handling it indicates contact with China (Khazanichi 2004: 18). These rectangular stone harvester tools offer strong evidence of a homogeneous cultural complex, which was probably linked together owing to migration and people-to-people contacts. During the survey, two new sites in Baramulla District of Kashmir were identified by Yattoo, where two types of harvesters were found: one from site 9.3 is oval, while the other was rectangular with a hole in the middle of the butt; the later has been found from site 5.4 and it is making only the third time that tools have been reportedly found in Kashmir (Yattoo 2012: 160-164; Yattoo and Bandey 2014: 38-39). It is usually seen, however, that the sites in Kashmir and China have double-holed harvester tools, whereas the harvester tool found in Pakistan's Swat has a single hole.

Stone balls and stone beads with perforation on both ends are the other important artifacts that were found at the Burzahom Neolithic site, and share an affinity with such artifacts found at the Karou and Qugong

sites as shown in Fig. 9. These spherical stone balls and stone rings or ceramic beads were frequently found at other prehistoric sites in the subcontinent and sometimes the stone beads had elaborately carved designs on them (Fig. 9). Gufkral site period IA to IC yielded a large variety of stone and bone implements including polished stone cults, finished and unfinished stone points (with one and both ends sharp), unfinished stone rings, pounders and querns, two piercers cum scraper shaped out of the splinter, and spatula (Sharma 1982-83: 23-41).

Bone artifacts

A large number of bone tools were recovered from Burzahom in Period II with extremely distinctive features including very fine polished ones with sharp working-ends. They included awls, antimony-rods, and scrapers of the horn with butt, short daggers, and polished sharpened working edges, chisels, needles with hole and harpoons including (Ghosh 1961-62: 19-21, Lal 1968-69: 10). A large number of bone tools were discovered from Gufkral period IA to IC too. Some of these tools were polished throughout the body, whereas in some cases only the working tips were polished. These tools were shaped out from long bones, usually splinters or horns, and generally, bones of goats, sheep, cervus, and ibex were preferred (Sharma 1982-83: 26). Bone tools included points, arrowheads, awls, piercers and scrapers, and some bone needles (Sharma 1982-83: 34). All these tools are noteworthy and explain a lot about the cultural sophistication of the inhabitants of these sites.

As was the case with the Karou and Qugong sites, the stone and bone implements of Burzahom and Gufkral too showed immense sophistication in their finishes. This also strengthens the impression that all these sites had a continuous interchange of ideas among their contemporary cultures.

It is notable in this case that the bone implements found at Karou that were similar to those found at Burzahom and Gufkral were awls, needles, indented blades, and knife blade groves as shown in Fig. 10. Most of these tools were made from the ribs or limbs of the animals. Qugong's bone tools were also remarkable in that they had detailed, sophisticated, and polished finishes. Their typology includes awls, needles, arrowheads, hairpins, plaque knives, and comb-shaped objects. These tools were chiefly made from the bones of animals' legs. Although the recovered

bone tools were not in as large a number as the stone tools, yet they displayed a great affinity with similar tools comprising the Burzahom material culture.

The affinity of Spiritual Beliefs

Substantial evidence available from Burzahom period II points toward its inhabitants' custom of use of red ochre color. In some of the pits a thin layer of red ochre was applied on the floor as a coloring material is attested all over the site (Ghosh 1961-62: 19, Yattoo 2012: 82). Apart from the application of red color was a witness in their burial practices. They buried their dead along with painted bones in their habitat area in an oval-shaped pit (Ghosh 1962-63: 9). Likewise in Gufkral period I, the floors of the dwelling pits as well as storage pits, their floor were plastered with red ochre paste (Sharma 1982-83: 26). In red ochre color might symbolize fertility (Sharma 1967). The significance of the red color among the Tibetans of those times is noteworthy. They used it frequently on their stone tools and bones, which points to the spiritual connection they had with the red pigment. Evidence of this can be found not only in their various customs and rituals but also in the chipped stone implements they used. For example, the inhabitants at the Qugong site applied red pigment to their chipped stone implements while making them. Grinding plates for making red paint and small pottery bottles for storing it were frequently found at the Qugong site. The red color has been identified as powdered hematite, which is a bright mineral color. In Qugong during prehistoric times, red symbolized life and force. Qugong's inhabitants believed that stone tools painted in red would infuse supernatural strengths in them, which can not only protect them but also grant them the power to make their everyday lives significant. Interestingly, they used red color in their burial practices also (Institute of Archaeology, Chinese Academy of Social sciences and The Bureau of Cultural Relics, Tibet Autonomous Region 1999: 270). Thus, according to excavators red mineral pigments and red-colored granules were found at the M111 tomb. The use of red color at the Burzahom and Qugong sites is another common feature of their spiritual and religious practices and connects these cultures.

In Burzahom some of the burial grounds revealed human skull trepanning, seven finished and four unfinished circular holes on the skull were present in the burials of period II (Ghosh 1962-63: 9). Skull

trepanning was not a common practice in the sub-continent at that time. In period II four of the human skeletons found were buried in a crouching position (Ghosh 1962-63: 9). A skeleton was found at the Gufkral site with human skull trepanning as mentioned in at least two studies (Chakrabarti 1999: 215; Bhat and Dubey 2019). Many pieces of evidence have been unearthed from the Tibetan plateau and they establish that human skull trepanning was a common traditional practice there. Since 1970, 31 specimens of trepanned human skulls were found from approximately 15 archaeological sites. These sites are located in different provinces such as Xinjiang, Qinghai, Gansu, Shaanxi, Henan, Shandong, and Heilongjiang. According to the records, the earliest trepanned skull (dated 5000 BP) was found at a Neolithic site in Fujia, in Guangrao County, Shandong province. In Xinjiang, the largest samples of trepanned human skulls were discovered from the Chawuhugou cemetery in Hejing County in tomb number 4, dated between 3000–2000 BP (Kangxin et al. 2007). Hence, based on the archeological findings, we can assume that the idea of human skull trepanning must have been transferred to Burzahom from the Tibetan plateau. Beside that, archaeologists found evidence of five wild dog's burial at the Burzahom site (Ghosh 1962-63: 10). Dog burial was not a common phenomenon during the Neolithic Period in the Subcontinent. However, this practice was very common and significant at Neolithic sites of the Tibetan plateau (Shuo 2011: 21-25).

There is also other evidence that supports the idea of the prevailing connection between Kashmir and Tibet. A jade bead found from the Kashmir Valley is one such piece of evidence as it was also found not only at the Qugong and Karou sites but also at many other Neolithic sites in Tibet; thus, strengthening the idea that the jade bead found from Kashmir could have traveled from Tibet (Shuo 2011, Tang 2014: 18-22).

Crop

Food is the basic necessity of life and can be considered the most important aspect of early trade. Therefore, it is critical to understand and study the type of crops being cultivated in different areas to establish any form of interaction.

In Burzahom, the crop remains from the period I gave the evidence of wheat, with the presence of a small quantity of barley, pulses, and lentil, as well as fruits including walnut, apricot, and peach. In period II,

the composition was much similar to period I, but with the addition of almonds and grapes. In the Megalithic period it is observed that the percentage of wheat was diminished after the introduction of rice. Pea and plum are also evident during this period (Betts et al., 2019: 20). In the Gufkral period IA six-row barley, wheat, brown lentil, pea were recovered (3130±100 BP) (Sharma 1982-83: 40), In period IB all the grains sustained (3980±120 BP - 2790±110 BP) (Sharma 1982-83: 40). In period IC all the grains of Period IA and IB continued with the introduction of rice in the final stage of Period IC (3579±100 BP - 2790±110 BP) (Sharma 1982-83: 40). The earliest millets in Tibet were found at the site of Karuo dated between ca. 2800 and 2100 BCE and wheat were introduced in ca. 1500 BCE (Tang et al. 2020: 3, Gao et al. 2021: 1-10). From Qugong site the traces of necked barley, hulled barley, foxtail millet, broomcorn millet, wheat, and bitter buckwheat were excavated (Fu 2001:66-74).

The changguogou sites (ca. 1742-1236 BCE) in central Tibet 80 km from Qugong site (Fig. 2) shared the same Qugong culture features with smooth pottery, grinding stones, and microlithic. At Changguogou more than 3000 naked barley, four wheat, foxtail millet, barley, pea, and oat were recovered after archaeobotanical data (Tang et al. 2021). It is also suggested that in central Tibet at least in the middle of the 4th millennium BP millet derived from east Asia and wheat from west Asia (Gao et al., 2021: 2). There is another site at Bangga (Fig. 2), where the presence of barley was relatively higher and most of the barley grains were collected from the activity area near the fireplace, which helps to suggest that the barley was frequently consumed at the site (Tang et al. 2020). The remains of crop evidences from Khog Gzung and Bangtangbu sites lies in the middle Yarlung Zangbo River (Fig. 2) and were contemporary with Qugong culture dated 3343-3161 cal. BP and 3213-3066 cal. BP. In these two sites only barley remains have been reported (Gao et al. 2020: 5). At 10 km from Bangga, the site Bangtangbu (Fig. 2), existed, during (ca. 1263-1056 BCE), a large amount of carbonized wood, lithic, ceramic sherds, and animal bones were evidence of the occupation. Their archaeobotanical research shows the presence of naked barley, wheat grains, and broomcorn millet (Tang et al. 2021). The archaeobotanical data from Kuoxiang site (ca. 1393-1052 BCE) suggested the existence of naked barley grains. Whereas, the archaeobotanical research from western Tibet, which is near Kashmir, illustrated a more diverse farming system.

The Karedong site (Fig. 2), (ca. 220-334 and 694-880 CE) show recovery of barley grains, wheat, buckwheat, and rice (Tang et al. 2021).

Scholars suggested that Changguogou site lies at the junction near the middle reaches of the Yarlung Zangbo River, where millet from the east and wheat farming from the west were combined (Gao et al. 2020: 1-10). If one were to consider the aforementioned pieces of evidence, it was always difficult to rule out the possibility of long-distance trade between these sites. However, the discovery of a Mongolian skeleton of a 50-year old male from Kashmir supported the idea of the existence of such long-distance interactions (Shuo 2011:23-25). All the above-narrated facts of crop commonality identified in the compared sites, clearly indicate the fact that there existed an interaction of different cultures.

4. Conclusions

This research paper shares numerous pieces of evidence that instigate and contribute towards the idea that inhabitants of Burzahom and Gufkral in Kashmir had some cultural connection with the sites of Karuo and Qugong on the Tibetan plateau. This research stretches back to the era of social interactions in terms of cultural and religious practices from the Prehistoric period to the 5th millennium BP. The exchange of technology or ideas is presented through affinity in dwelling pits, commonalities in pottery designs, usage of polished and sharpened stones and bone implements, as well as similarities in their religious beliefs. The presence of harvest stones and millet dispersal in Kashmir likely suggested a similar agricultural tradition. The areas which are near Kashmir were diversified in crop cultivation. Changguogou site, which lies in the middle reaches of the Yarlung Zangbo River, points to a convergence of millet farming from the East, and the West indicates the farming of wheat. The crop dispersal is probably an indication of the movement of people through the Himalayas, which might have played an important role in the development of a distinctive cultural complex within Kashmir, Pakistan, China, and Central Asia.

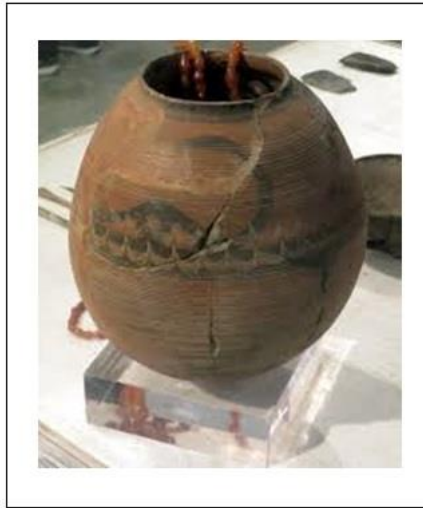


Fig. 1 - Burzahom horn vessel portraying an influence of KotDiji.

Source:

https://en.wikipedia.org/wiki/Burzahom_archaeological_site#/media/File:Horned_figure_on_pottery._Pr%C3%A9-A9-Indus_civilization._Kashmir.jpg (accessed 15th April 2020).

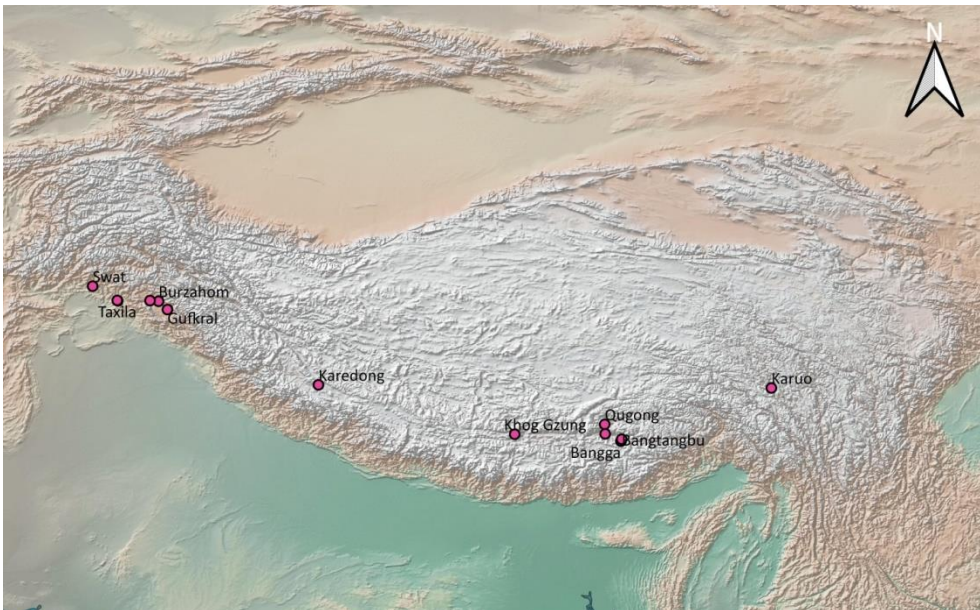


Fig. 2 - Map of Studied Area Indicating Major Prehistoric Neolithic sites.



(a) Dwelling pit structure



(b) Pit wall



(c) Dwelling pit

Fig. 3 - Dwelling Pits from Burzahom site.

Source:

Ghosh, A. 1964 *Indian Archaeology 1961-62, A Review*. Archaeological Survey of India, New Dehli.
Lal, B.B. 1971 *Indian Archaeology 1968-69, A Review*. Archaeological Survey of India, New Dehli: 10.

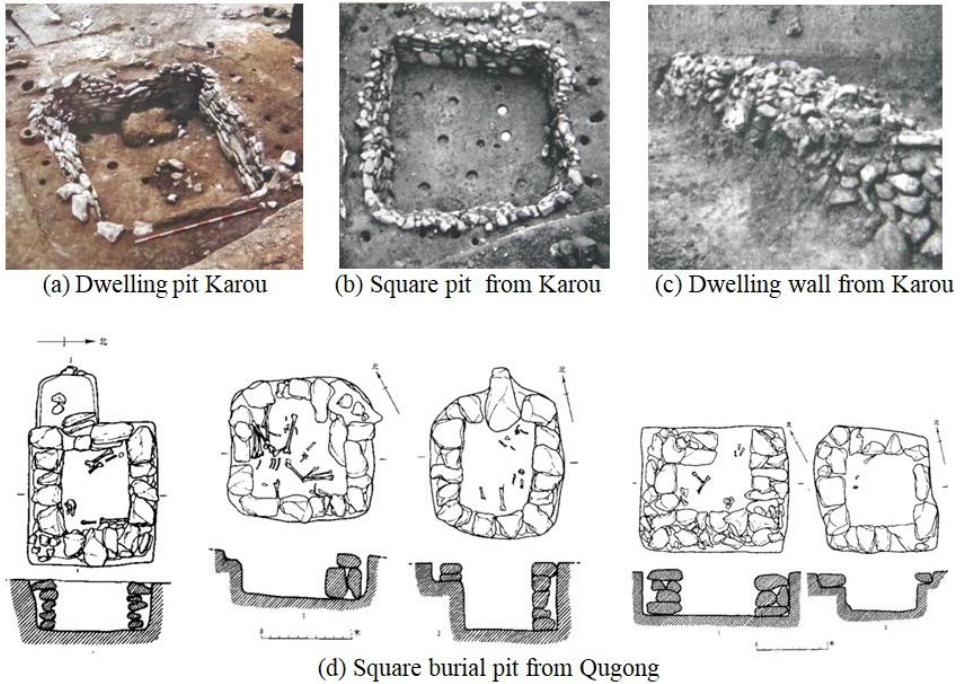


Fig. 4 - Dwelling pits from Karou site and Qugong burial pits.

Source:

The Institute of Archaeology, Chinese Academy of Social sciences and The Bureau of Cultural Relics, Tibet Autonomous Region. 1999 *Qugong in Lhasa Excavations of an Ancient Site and Tombs*. Beijing, China: The Encyclopedia of China Publishing House.

Tibet Autonomous Region Department of History, Sichuan University, Cultural Relics, publishing House Beijing. 1985 *KAROU: A NEOLITHIC SITE IN TIBET* (with an English Abstract)

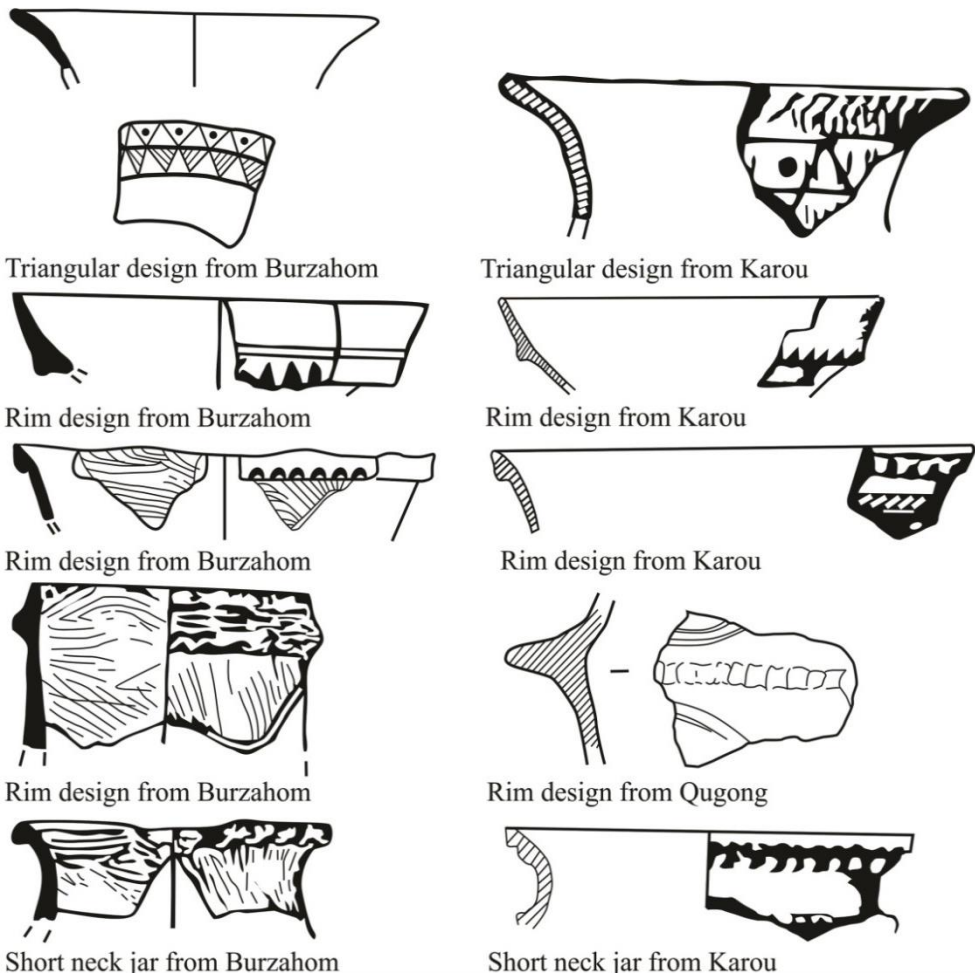


Fig. 5 - Images of Pottery unearthed from Burzahom, Karou, and Qugong site.

Source:

Ghosh, A. 1964 Indian Archaeology 1961-62, A Review. Archaeological Survey of India, New Dehli.

The Institute of Archaeology, Chinese Academy of Social sciences and The Bureau of Cultural Relics, Tibet Autonomous Region. 1999 *Qugong in Lhasa Excavations of an Ancient Site and Tombs*. Beijing, China: The Encyclopedia of China Publishing House.

Tibet Autonomous Region Department of History, Sichuan University, Cultural Relics, publishing House Beijing. 1985 Karou: A Neolithic Site in Tibet (with an English Abstract)

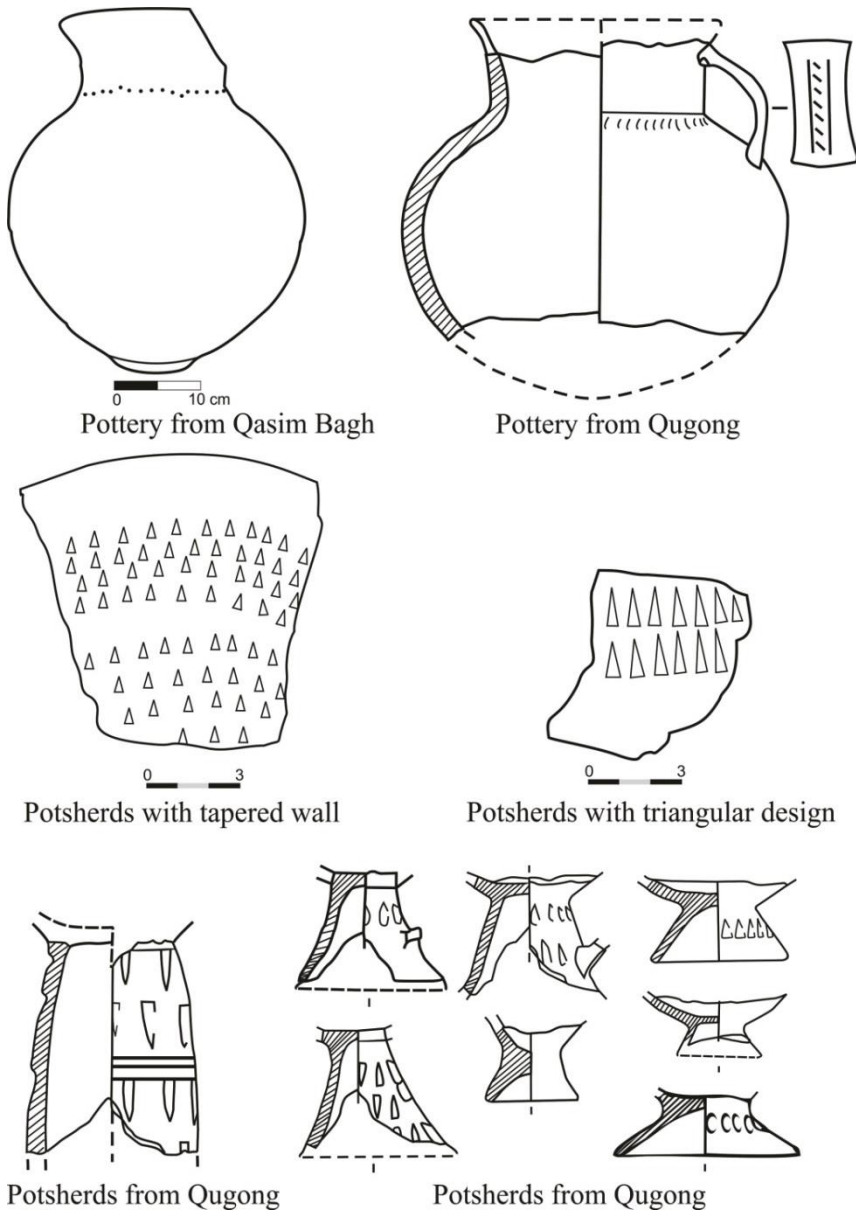


Fig. 6 - Illustrations and images Pottery excavated from Qasim Bagh and Qugong site.

Source:

A. Betts, et al. 2019 The Northern Neolithic of the Western Himalayas: New research in the Kashmir Valley. *Archaeological research in Asia*. <https://www.researchgate.net/publication/331722729> (accessed 24th March 2020).

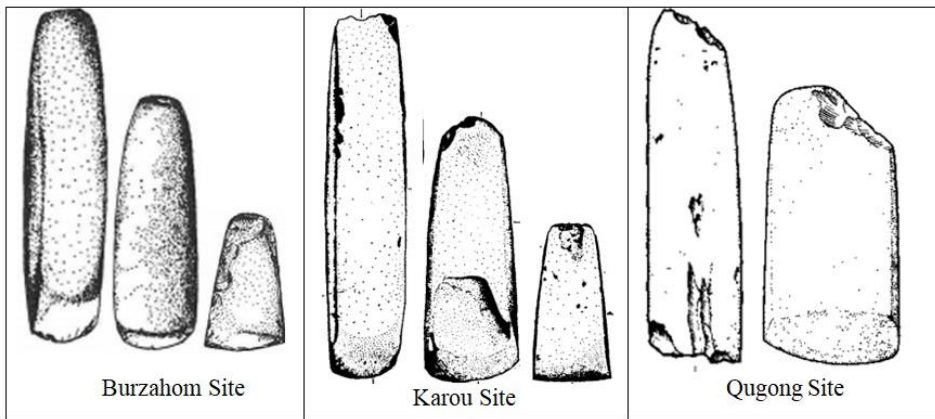


Fig. 7 - Illustrations of Stone axes and Chisels excavated from Burzahom, Karou, and Qugong sites.

Source:

Ghosh, A. 1964 Indian Archaeology 1961-62, A Review. Archaeological Survey of India, New Dehli.
 The Institute of Archaeology, Chinese Academy of Social sciences and The Bureau of Cultural Relics, Tibet
 Autonomous Region. 1999 *Qugong in Lhasa Excavations of an Ancient Site and Tombs*. Beijing, China:
 The Encyclopedia of China Publishing House.
 Tibet Autonomous Region Department of History, Sichuan University, Cultural Relics, publishing House
 Beijing. 1985 Karou: A Neolithic Site in Tibet (with an English Abstract)

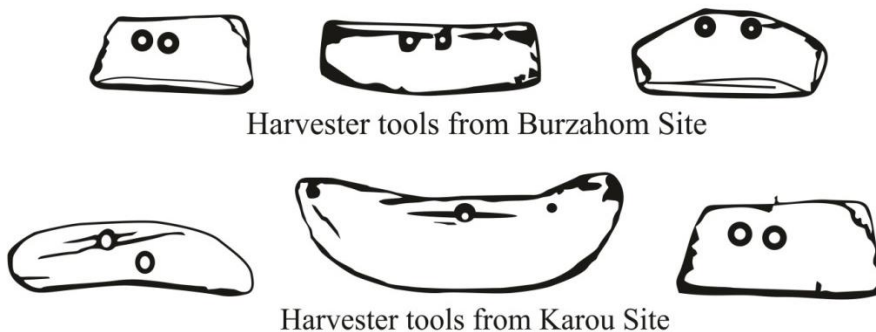


Fig. 8 - Illustrations of Harvester tools unearthed from Burzahom and Karou site.

Source:

Ghosh, A. 1964 Indian Archaeology 1961-62, A Review. Archaeological Survey of India, New Dehli.
 The Institute of Archaeology, Chinese Academy of Social sciences and The Bureau of Cultural Relics, Tibet
 Autonomous Region. 1999 *Qugong in Lhasa Excavations of an Ancient Site and Tombs*. Beijing, China:
 The Encyclopedia of China Publishing House.
 Tibet Autonomous Region Department of History, Sichuan University, Cultural Relics, publishing House
 Beijing. 1985 Karou: A Neolithic Site in Tibet (with an English Abstract)

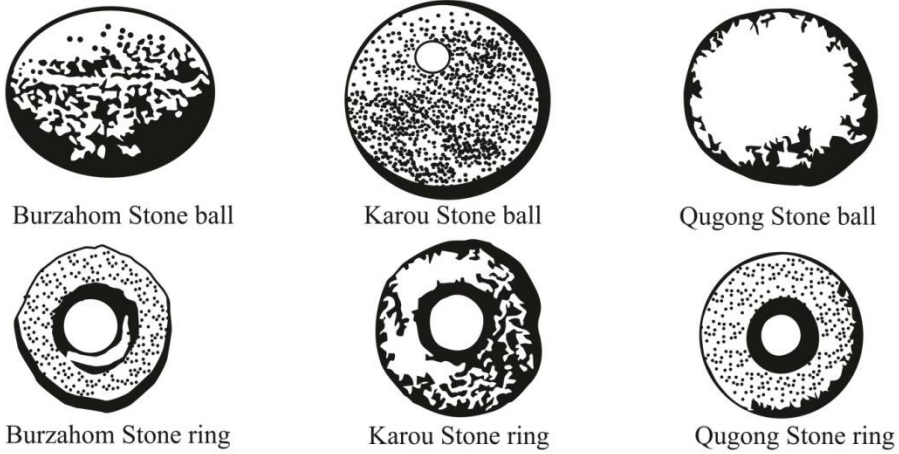


Fig. 9 - Illustrations of a variety of Stone balls and Stone rings excavated from Burzahom, Karou, and Qugong site.

Source:

Ghosh, A. 1964 *Indian Archaeology 1961-62, A Review*. Archaeological Survey of India, New Dehli.
The Institute of Archaeology, Chinese Academy of Social sciences and The Bureau of Cultural Relics, Tibet Autonomous Region. 1999 *Qugong in Lhasa Excavations of an Ancient Site and Tombs*. Beijing, China: The Encyclopedia of China Publishing House.
Tibet Autonomous Region Department of History, Sichuan University, Cultural Relics, publishing House Beijing. 1985 *Karou: A Neolithic Site in Tibet (with an English Abstract)*

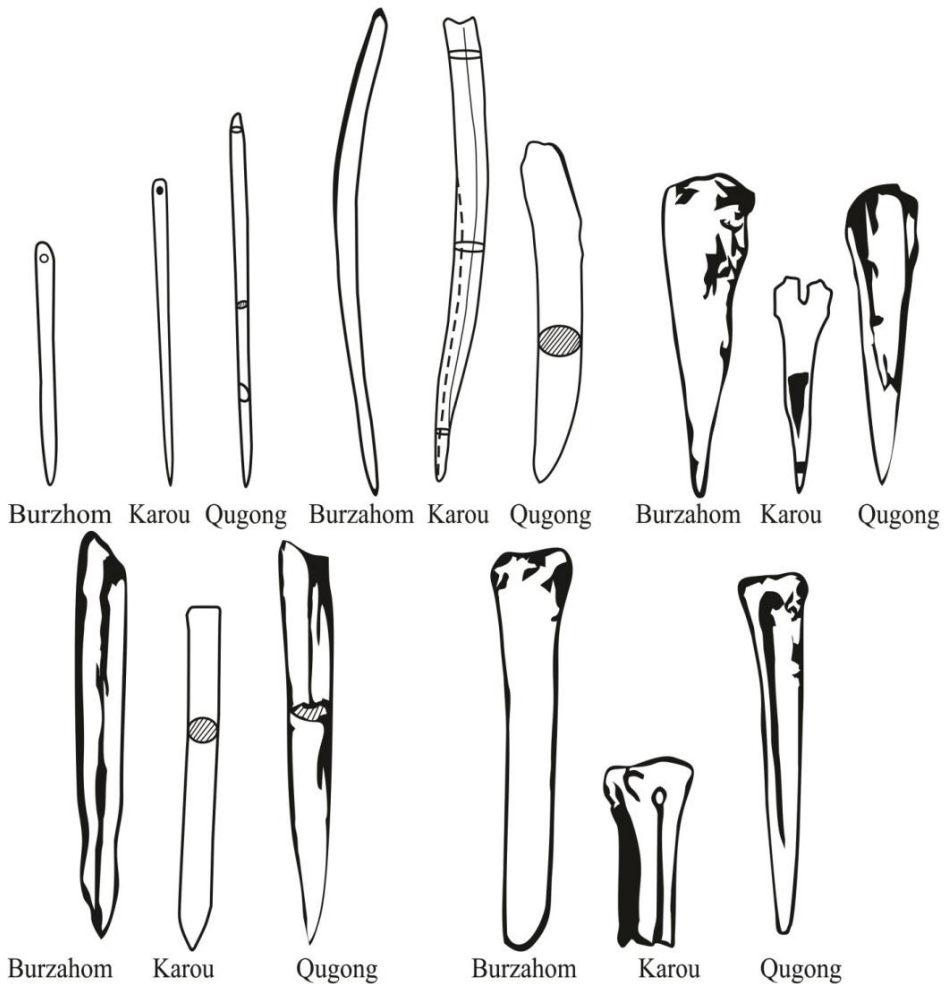


Fig. 10 - Illustrations of a variety of Bone tools unearthed from Burzahom, Karou, and Qugong site.

Source:

Ghosh, A. 1964 Indian Archaeology 1961-62, A Review. Archaeological Survey of India, New Dehli
 The Institute of Archaeology, Chinese Academy of Social sciences and The Bureau of Cultural Relics, Tibet
 Autonomous Region. 1999 *Qugong in Lhasa Excavations of an Ancient Site and Tombs*. Beijing, China:
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Tibet Autonomous Region Department of History, Sichuan University, Cultural Relics, publishing House
 Beijing. 1985 KAROU: A NEOLITHIC SITE IN TIBET (with an English Abstract)

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