

2nd International Conference on Burma/Myanmar Studies
16-18 February 2018, Mandalay, Myanmar

Neolithic Cultural Evidences of Bulugone Site, Wundwin Township

Lwin Lwin Kyaw

Lecturer

Department of Archaeology

Yadanabon University

Abstract

Samon River Valley Culture was discovered in central Myanmar in 2000s. It was composed of Bronze and Iron Ages date to circa 700 BCE-400 BCE. There were over thirty prehistoric sites in that valley and Bulugone is one of this cultural regions. But, not only bronze and iron materials but also stone implements were discovered from that site. The total amount of discovery of stone tools is larger than bronze and iron materials. There were nine kinds of stone tools in that sites; splayed axe, shouldered tool, faceted tool, chisel, punch, arrow head, wedge blade or adze, gouge adze and ring stone etc. Therefore, Bulugone was distinct with other sites of Samon Valley, bronze and iron ages. Moreover, semi finished stone tools and flakes were also discovered from that site. Therefore, it can be assumed that Bulugone might be a workshop site of Stone Age culture. Forms and styles of stone tools of that site are closely similar to the stone tools of Letpanchibaw, Shwesayan and Taungthaman Neolithic sites of Upper Myanmar. Moreover, earthen-wares, spindle whorls, horns, semi fossils of animal bones, bronze and iron materials were discovered from that site. This paper will be uncovered what kind of culture was advanced in that site and how related with other contemporary sites.

Key words; Bulugone, Neolithic, Stone implements

Introduction

Bulugone site is situated about 15 miles to North of Wundwin Township. Bulugone site is 22° 16' 32" N and Longitude 96° 00' 26" E and 468' above sea level. As primitive men lived in Myanmar, there were many cultural centres. Bulugone falls within the area of Samon river valley. Archaeological evidences are revealed in Bulugone site. By analyzing of archaeological evidences, cultural heritages such as Stone Age, Bronze Age, Iron Age, Pyu and Bagan period culture are found in there. Stone implements, stone rings, fragments of semi-fossilized animal bones, potsherds and iron objects are uncovered as surface finds. Among those evidences, stone implements are the most common in Bulugone site. This research paper has undertaken based on the collected data, typological analysis of stone tools and form and function analysis of pottery. By studying these tools and objects, it is assumed that different cultures had flourished successively

at Bulugone. Among these archaeological evidences, Neolithic cultural evidences are summarized in this paper.

Bulugone site is located to the east of Bulugone village, one mile to the south-west of Shwetaung Village tract of Wundwin Township, Meikhtila District, Mandalay Region. It is situated at latitude $22^{\circ} 16' 32''$ N and Longitude $96^{\circ} 00' 26''$ E and 468' above sea level. Bulugone site is like a hill. The mound is composed of potsherds, fragments of bones and stone tools.

Bulugone is situated in the dry zone, and rainfall is scarce. The minimum temperature is 80° F and the maximum 102° F. The natural vegetations found are Htanaung, Kokko, Magyi, Tama, Sha, Kathit, Nabu, Latpan and Kantaya. The main crop is rice and other crops are maize, sesame, groundnut, pulses, onion, cotton, chili and vegetables. Salt can be produced at the patch on the east of Bulugone mound. Three creeks named Re-cho, Thin-pon and Thabye-yo flow on the west of Bulugone. It is only one mile away from Bulugone to these creeks. Mai Nyo Mountain is also situated on the west of Bulugone. Thin-pon creek is one of the tributaries of Samon River which flows on the east of Wundwin Township. Samon river valley is famous for its hundreds of burial sites. Bulugone falls within the area of Samon river valley. Bulugone area is one of the most attractive places for ancient people because archaeological evidences from different periods are found there. These archaeological evidences were belonged to Stone age, Bronze age, Iron age, Pyu period and Bagan period. Stone tools, fragments stone rings, stone beads, fragments of semi-fossilized animal bones, antlers, horns, potsherds and iron objects are uncovered as surface finds. By studying these tools and objects, it is assumed that different cultures had flourished successively at Bulugone. Among those archaeological evidences, Neolithic cultural evidences are summarized in this paper.



Figure 1-Location of Bulugone Site in Wundwin Township

In Myanmar the Neolithic culture probably dated to about 2000 BCE or more. Thermoluminescence dated belong to 710 to 410 BCE. (Stargard, 1990, p-16) The distinctive characteristic of Neolithic culture are (1) the invention of pottery, (2) the manufacturing of polished stone tools, (3) domestication of plants and animals (4) settlement in permanent villages and (5) weaving. They could live a settle life and

produce their own food. Gradually a number of inventions were made such as the manufacture of pottery and spinning and weaving. In Myanmar Neolithic settlements were occupied on the river bank or near the big lakes. (Stargard, 1990)

Neolithic polished stones have been found all over the country, between Kachin State in the north and Tininthayi Region in the south, and between Shan State in the east and Rakhine State in the west. (Than Tun, 2006, p-43) Neolithic polished stone tools were especially found in Taungthaman, Shwesayan and Letpanchibaw site of the central Myanmar. Archaeological evidences yielded from these sites show that Neolithic culture had flourished in those areas.

It can be clearly seen that Neolithic stone tools were ground and polished. These stone tools included facettted tools, shouldered tools, splayed axes, wedges, chisels, gouges, gouges adze, ring stones and hummer stones.(Stargard, 1990, p-28) Almost all of them are found as surface finds because archaeological investigation on Neolithic culture is still infancy in Myanmar. The implements were uncovered by farmers when the farmers ploughed their fields. In the manufacturing processes of these tools, the most important process is the technique of grinding and polishing which covers the whole tools from the cutting edge to the butt. It seems that the uses of polished stone tools in Myanmar had continued to use up to the rise and development of bronze and iron impalements. Therefore Morris's collections have to be viewed as the advance Neolithic which were spreading from southeast Asian Countries (Vietnam, Thailand, Malay) to eastern India and Bangladesh through the Myanmar. (Than Tun, 2006, p-48)

To produce a polished stone tool, there were four manufacturing stage (Sankali,1964,p.79). Bulugone yields not only finished stone tools but also unfinished stone tools. These unfinished stone tools reveal the processes of manufacturing. The manufacturing processes of stone tools at Bulugone are as follows-

- (1) Primary flaking
- (2) Secondary flaking
- (3) Grinding and
- (4) Polishing

Primary flaking

This is the most fundamental stage in the manufacturing process. The flint knapper fashions a pebble or nodule, or fined grain rock into the desired shape (H.D Sunkali, 1964, p-80). Direct percussion includes that the core may be placed on the ground and pressure applied by means of a point and hafted so that the knapper can put the weight or a nodule chest or shoulder against. A punch made of bone or wood is struck with a hammer stone of detach the flakes. This process is known as punch technique. These aforesaid two techniques were especially used to make the blades. By holding the pebble or nodule or any fined grain rock and hitting with a hammer stone. This process is known as stone hammer technique. But sometime by placing the pebble on an anvil and hitting with a hammer stone. This is termed as hard hammer percussion. This method was used for removing wide or large, thick flakes. The pebble or nodule is struck against an anvil stone or block of stone to detach the flakes. This technique is called anvil technique or block on block technique. These two technique stone hummer technique or hard hammer percussion arid anvil technique or block on block technique might have been used as primary used us primary flaking at Bulugone.

After the nodule had passed through the primary flaking it might naturally have many uneven surfaces, depressions and spurs. These are next removed to form an even surface. This is technically called as pecking. It is noteworthy that the difference between pecking and flaking is that pieces of stone are not actually removed during pecking, but the stone is coloured by repeated blows. In America, Indians used soft hammer percussion to chip pieces removed from the core into objects called preforms. After doing the primary flaking any later working designed to thin down or improve the look or effective function of stone implement is called secondary flaking and also known as retouch.

Grinding

When the tool has finished these above two stages, it is needed to grinding. Sandstone and limestone are chosen in order to abrade such a rough pecked surface and the water is used as lubricant.

Polishing

This is the final stage and it is brought the beauty out of the stone. It is used as a finishing process. It is possible that sand and animal fat are mixed and used leather to rub the mixture against stone although no body exactly knows how to polish the stone tools. Most of the stone tools from Bulugone, however, have been scarcely reached this stage but these stone implement have been finished three manufacturing stages or process. It can be clearly seen that the Neolithic stone tools uncovered by Morris were ground and polished implements which included faceted tools, shouldered tools, splayed axes, wedges, chisels, gouges, gouges adze, ring stones and hammer stones. All of them are probably surface finds. The implements were usually turned by the plough when the farmers ploughed their fields. In the process of manufacturing of these tools, the most important process is the technique of grinding which covers the whole tool from the cutting edge to the butts.



Figure 2 Polished stone tools of Bulugone Site(Soe Naing collection)

Different types of stone implements are found at Bulugone. The stone tool assemblages of Bulugone include axe, shouldered tools, chisels, adzes and grinding stone. Among them, adzes are more common than other types of tool.

Excavation at Bulugone yielded nine different kinds of stone tool. They are

- (1) Splayed axe
- (2) Shouldered tool
- (3) Facetted tool
- (4) Chisel
- (5) Punch

- (6) Arrowhead
- (7) Wedge blade or adze
- (8) Gouge adze
- (9) Ring Stone

(1) Splayed axe

The shapes of the axe are set at right angle at one side and sloping, straight blades and sharp edge bulging blade at each side like square with sloping edge, 45° slating blades (bevelled cutting edge)

(2) Shouldered tool

Shouldered tools have tenons on both sides of one edge. Blade is bigger than edge. And tenon and small edge make shouldered tools shape. Most forms are square and rectangle. There are even and uneven sides to make such tools. Both blades are sharpened.



Figure 3-Splays axes and shoulder tools of Bulugone Site(Soe Naing collection)

(3) Facetted tool

Facetted tools are rectangle in shape. In Southeast Asia facetted tools are called "quadrangular adzes". Edges are at right angle to the plane of the stroke. Some looks are at right angle with the haft.

(4) Chisel

Chisels are mostly elongated and blades are sharp enough. Some Chisels are cylindrical shapes. They are polished and have same functions as adzes. They are supposed to chop wood and scrap fibers from wood.



Figure 4-Chisel tools of Bulugone Site(Soe Naing collection)

(5) Punch

The Shapes of Punch are square, Cylinder and sloping edges. One edge is notched and sharpened. Punches yielded in Bulugone site have been found in Yunnan, Bengal and Indo - China.

(6) Arrow heads

Arrow heads have a sharp edge and triangular shape. As arrow heads are found in Bulugone site, hunting was practiced.

(7) Wedge blade or adze

Both blades of wedge - blade or adzes are sharpened and quadrangular, cylindrical, sharp edges and ground stone in shapes.



Figure 5, 6 - Wedge blade or adze tools of Bulugone Site(Soe Naing collection)

(8) Gouge adze

Gouge adze whose both sides are ground and has quadrangular shape and sharp edge. Shouldered tools, wedge blades or adzes, gouge adzes and chisels have no holes through which a haft passes, but hafts are attached with leather cord. Such are reveals Neolithic Age.



Figure 7, 8 - Gouge adze tools of Bulugone Site(Soe Naing collection)

(9) Ring Stone

A considerable number of ring stones are found in Bulugone site. Shapes of ring stone are spikes, circle, and oval. They are also found in Letpanchibaw, Shwesanyan and Taungthaman, T.O. Morris described three assumptions of stone rings. They are

- (1) to hunt animals
- (2) to use at rites and rituals and
- (3) to use as grinding stone

In the excavation of Bulugone site stone rings are found associated with skeletons. So they were used in funerary rite. Dealing with spiked ring, Dr. Than Tun supposed to be solar veneration. Concerning circular ring stone the then Pro Dr. Thar Tun Maung, takes to be lunar veneration. So, stone ring is dealt with religious belief. Stone rings are also found in Malaysia, China, Laos, Vietnam, Cambodia and Thailand. So in every region where Neolithic Age flourished stone rings seem essential.



Figure 9,10 - Fragments of circle-shape and spike-shape ring stones from Bulugone Site(Soe Naing collection)

Grinding stone are found to make ground tools, grinding stones are made of sandstone. There are two kinds of grinding stone:

- (1) grooved grinding stones
- (2) plain grinding stone

They are used to sharpen and smooth blades and surfaces of stone implements. So through discovery of grind stones, Bulugone site seems to be a workshop site. Grinding stone uncovered at Bulugone site are similar to those of Letpanchibaw. So, Bulugone site is likely contemporaneous with Letpanchibaw. Through discovery of ground tools, fragments and semi-ground tools, it is supposed to be a workshop site. Typologies of stone tools from Bulugone are similar to those of Letpanchibaw, Shwezayan and Taungthaman which are Neolithic sites of Myanmar. Therefore, it is safe to say that Neolithic culture had flourished in Bulugone.



Figure 11-Fragment and semi finished ground tools



Figure 12-Packing and Flacking



Figure 13-Rejected Flakes

(Soe Naing collection)

Earthen wares were unearthed from Bulugone site. They are beaker-shaped cup, dubbed beer cans, pedestal cup, gourd-shaped bottle, distillation pot, betel box bowls, round-based bottle, hollow pedestal pot, hollow pedestal dish with two string holes, medium and small oval based pot with string holes and oil lamp. Almost all the earthen wares were formed by potters' wheel but small pots are made by hand.

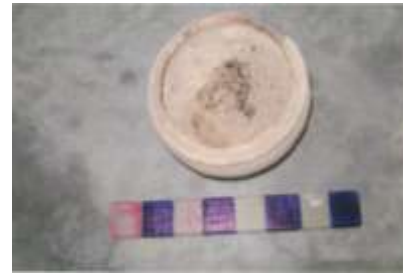
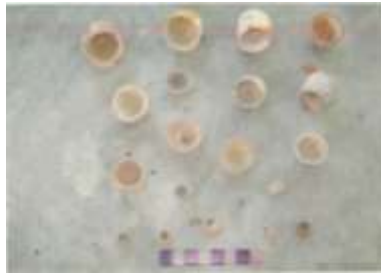


Figure 14, 15 Small pottery(Soe Naing collection)

In texture some of them are excellent, majority of the pottery are made of medium fabric and the rest are in two kinds of clay ranging from fine to medium texture and medium to coarse. Dubbed beer cans are found. It is named as water bottle by U Aung Thaw. It was also obtained from Halin and Ywahtin site of Samon Valley. Spindle whorls are also found from this site. Finding of spindle whorls from Bulugone strongly showed that were people who knew the art of weaving and spinning.



Figure 16 - Spindle Whorls of earthen ware from Bulugone Site(Soe Naing collection)

Certain studies of finding anvil paddle burnt mud with traces of hay or straw the site Bulugone might have been a workshop site of earthen ware.

Oil lamps are a kind of shallow and small dish. It may have been used for both domestic and ceremonial purposes. Almost all the earthen wares were turned by potters' wheel. But small pots are made by hand. For modern potters a round that area is still practicing that method. So, Bulugone might have been a workshop site of pottery.

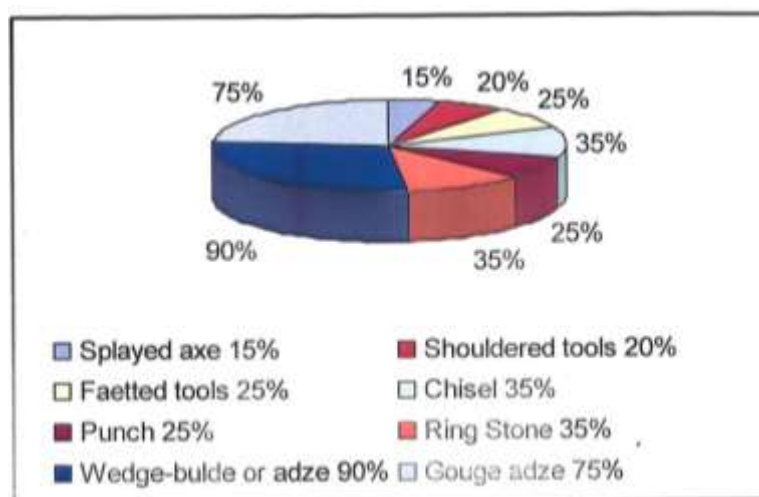
Bone fragments of semi-fossilized animals are cattle bone, antlers of stag, deer are mostly found. As salt is produced and the land is impregnated with sulphur can help fossilize quickly. Mollusk and snail shells are found. Strategically Bulugone site is situated on a higher altitude than surrounding area. Since, the area is surrounded by streams and it falls within the area of Samon river valley. So, it is geographically favoured for agriculture and farming and easily accessible to other sites as Taungthaman and Letpanchabaw, etc.



Figure 17 - Semi-fossilized animal bones in Bulugone Site(Soe Naing collection)

Conclusion

Bulugone site is one of the most attractive places for ancient people because archaeological evidences from different periods are found there. These archaeological evidences belonged to Stone age, Bronze age, Iron age, Pyu period and Bagan period. Bulugone falls within the area of Samon River Valley. Bulugone site is a mound. According to the stratigraphy, the mound is composed of potsherds, stone tools and fragments of animal bone. Archaeological findings are stone tools, fragments of ring stone, stone beads, semi-fossilized animal bones, antlers, horns, potsherds and iron objects are uncovered as surface finds. The stone tools of different types are found at this site. The stone tool assemblages of Bulugone include axe, shoulder tools, chisels, adzes. Culture prevailed at Bulugone. The findings of grinding stones, flakes, rejected, semi-finished and finished stone tools were clearly indicated that Bulugone site was a workshop site. A considerable number of ring stones are found in Bulugone site. The stone rings also were used, it can be assumed that to hunt animals and to use at rites and rituals materials. They are also found in Letpanchebaw, Shwesayan and Taungthaman sites. Earthen wares were found unearthed from Bulugone site. Almost all the earthen wares were made formed by potter's wheel. But small pots are made by hand. In texture some of them are excellent, majority of the pottery are made of medium fabric. The evidence of anvil and paddle burnt mud with traces of hay or straw the site Bulugone might have been a workshop site of pottery. Spindle whorls are also found from this site. Thus, Bulugone people knew the art of weaving and spinning. Moreover, the fragments of semi-fossilized animals bone, antlers, horn uncovered as surface finds. Salt patches are found at the foot of the eastern part of Bulugone mound. Three creeks flow one mile away from Bulugone site. Salt patches, creeks and seasonal lakes were also found near around Bulugone site. So, wild animals depend on food by Salt patches and Creeks. Therefore, Bulugone area is self sufficient another area. Bulugone people would make stone implements for hunting. By archaeological evidences, Bulugone, Letpanchebaw, Shwesaryan and Thaungthaman sites are contemporary. In Myanmar Neolithic culture probably dated to about 2000 BCE. Neolithic culture prevailed at Bulugone is contemporary with those of Southeast Asia, Taiwan, Assam, Bengal and Bihar. Neolithic culture of Southeast Asia is belong to between 3000 and 1500 BCE.



Ratios of Stone Implements recovered from Bulugone Site

Bibliography

English Books

1. Bob Hudson (2004) The archaeological landscape of upper Burma to AD 1300
2. Elizabeth H Moore (2007). *Early Landscapes of Myanmar*, Bangkok, River Books press.
2. H.D Sankalia (1964). *Stone Age tools*, Ponna, Deccan Collage
3. Stargardt, Janice (1990). *The ancient Pyu of Burma*, Volume I Early, Cambridge University press
4. Than Tun, Dr (2006). *Myanmar History Told in Picture*
5. Tin Htut Aung. *The Study of Neolithic Cultural Assemblage in Shwezayan Archeological Site*, M.Res (Thesis), Department of Archaeology, Dagon University, Yangon, Myanmar

Myanmar Books

1. Department of Archaeology, National Museum and Library (2010). *Report on the Excavation at Bulugone*.
2. *jrifhatmif? OD;? anmifOD;NrdKUe,f vufyHajcay:&GmrS ausmufacwfopf oHk;vufeufypönf;rsm; yPmravhvmcsuf/*
(A Preliminary Study on Neolithic Tools from Letpanchibaw, Vol-1)
3. *vGifvGifausmf? a': (2008) bkvkukef;ywf0ef;usifa'orS ajrjyifawGUaxmuf txm;rsm;avhvmjcif;/*
(Archaeological surface finds at Bulugone)
4. *oef;xGef;atmif? OD; (2002) rkd;BudK;jyifrS ausmufvufeuf rsm;ESifh rHk&Gmc¹/₂dkifrS ausmufvufeuf rsm; okawoejyKavhvmjcif;*
(study on stone implement of Moegyobin and Monywa District)