

# **STONE VATS (KALAMBAS) AS ONE OF MEGALITHIC REMAINS IN THE LORE VALLEY, CENTRAL SULAWESI<sup>1</sup>**

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## **ABSTRACT**

The province of Central Sulawesi, particularly Lore Valley that is part of Poso Regency, is rich in cultural remains from the period when the megalithic tradition flourished. The remains include among others kalamba (stone vats), megalithic statues, stone mortars, pitted stones, engraved stones, and clay jars.

The Lore Valley area consists of Bada, Besoa, and Napu smaller valleys. Here, there are scatter of very specific cultural items rarely found in other parts of Indonesia, which are locally known as *kalamba* (stone vats). Stone vats are usually functioned as burial containers. Excavations reveals that stone vats were communal and secondary burials. C-14 dating shows that one of the sites at Besoa Valley, Entovera Site, has been inhabited since 2170 BP. This makes Entovera Site one of the oldest megalithic sites in Indonesia. Outside Central Sulawesi, megalithic burials resemble to kalamba are found in Sarawak, North around Lake Toba (North Sumatra); Donggo, (West Nusa Tenggara), Mekong Valley (Laos), and Assam (to the northwest of Cachar Mountains in India).

Key words: Megalithic remains, kalamba, Lore Valley area, Central Sulawesi

## **STONE VATS (KALAMBA) SALAH SATU PENINGGALAN MEGALITIK DI LEMBAH LORE, SULAWESI TENGAH**

### **ABSTRAK**

Kawasan Lembah Lore di Sulawesi Tengah yang terdiri dari 3 lembah yaitu Lembah Bada, Lembah Besoa dan Lembah Napu ini mempunyai sumber daya budaya yang sangat spesifik dan jarang ditemukan di wilayah Indonesia lainnya. Temuan tersebut antara lain adalah kalamba (stone vats), arca megalitik (megalithic statues), lumping batu (stine mortars), batu dakon (pitted stone), batu bergores (engraved stone), dan tempayan tanah liat. Di antara temuan-temuan tersebut, temuan yang paling unik adalah kalamba atau tong batu (*stone vats*). Kalamba biasanya digunakan sebagai

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tempat penguburan komunal dan kubur sekunder. Dari pertanggalan C-14 dapat diketahui salah satu situs di Lembah Besoa, yaitu Situs Entovera sudah dihuni sejak 2170 BP. Sementara ini, pertanggalan ini menempatkan situs Entovera sebagai salah satu situs megalitik tertua di Indonesia. Selain di Sulawesi Tengah, bentuk kubur mirip kalamba ditemukan juga di Serawak, di sekitar Danau Toba (Sumatera Utara) Donggo (Nusa Tenggara Barat), di Lembah Mekong (Laos), dan di Assam (sebelah barat laut pegunungan Cachar, India).

Kata kunci: Tinggalan megalitik, Kalamba, Kawasan Lembah Lore, Sulawesi Tengah

## INTRODUCTION

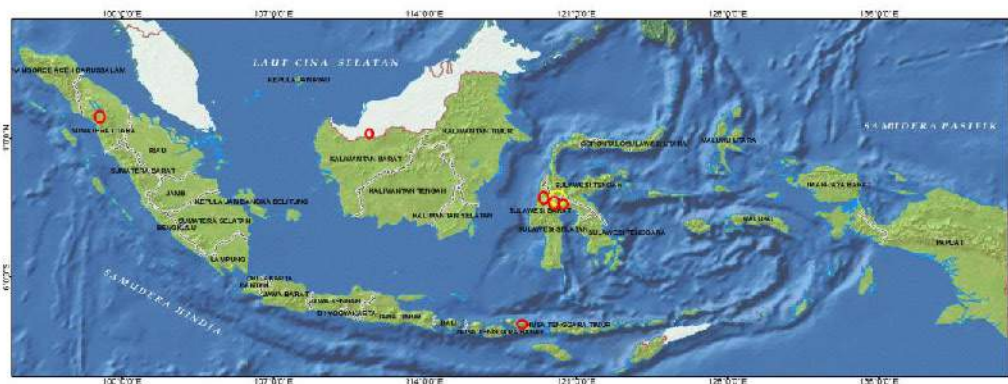
The Province of Central Sulawesi is one of the Indonesian provinces which is very rich in megalithic remains. These includes megalithic statues, stone vats, stone mortars, pitted stones, and engraved stones. The stone vats are indeed the most attractive ones as it is found only in very limited areas. Within the Indonesian archipelago, a small number of stone vats were reported to be discovered in Sarawak (Banks, 1937), around Lake Toba, North Sumatera (Hoop, 1938) and in Donggo, the Province of West Nusa Tenggara (Prasetyo, 2002). In Asian Mainland, stone vats are only discovered in the Plain of Jar in the Mekhong Valley, Lao (Colani, 1935) and in Assam, north-west of Cachar mountains (Mills and Hutton, 1928).

In Central Sulawesi, stone vats are numerous found mainly in three valleys, i.e. the Bada Valley area (District of South Lore, Poso Regency), Besoa Valley (District of Central Lore, Poso Regency), and Napu Valley (North Lore District, Poso Regency).

Megalithic sites in the province of Central Sulawesi especially those that bear stone vats, are situated in Lore Valley area, which now belongs to the administrative area of Poso Regency. The sites which are found in Lore Valley are located on a high plateau with an altitude of about 800 - 1500 m above sea level within the Lore Lindu National Forest.

Geomorphologically the Lore Valley area consists of ultra basic rocks with reddish-brown and sometimes yellowish soil on the surface. This area is rich in minerals like gold, sulphur, coal and iron ore. Geologically this area can be categorized as having unique geomorphology. According to Bemmelen (1970) this area is part of the Poso Zone which is situated in the central zone of Central Sulawesi. Furthermore, according to Brouwe (1947) this region is grouped into "Napoe Basin" which is an extension of the formation that occurs due to Pompangeo granite intrusions during the late Mesozoic or Tertiary period (Bemmelen 1970). The indigenous people in this region are Lore Tribe which speaks Bada language with the respective dialects of Bada, Besoa, and Napu.

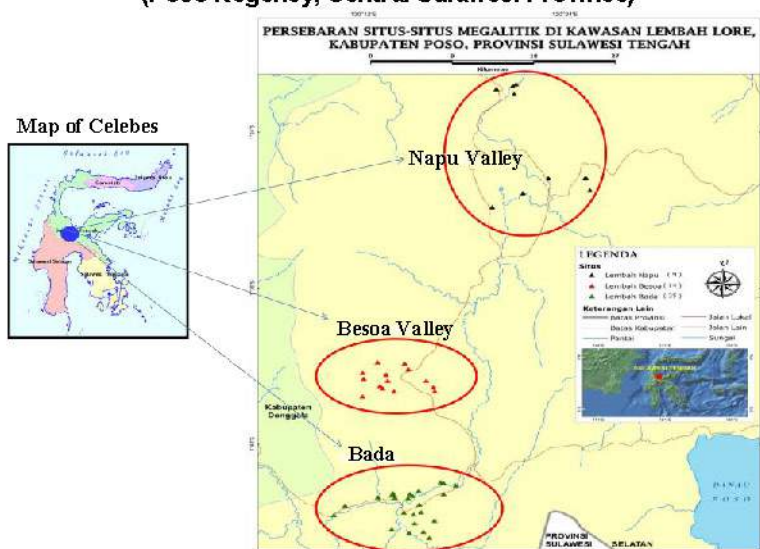
**Picture 1. The Distribution of Stone Vats in Indonesia**



## STONE VATS: DISTRIBUTION AND EXCAVATION

Stone vats are named as *kalamba* (which means boat) for the bottom part by the local community and *tuatena* for the cover. *Kalamba* is a cylindrical stone vat with a hole in the middle. The largest stone vats that have been discovered so far measures between 187 and 216 cm in diameter, and the tallest has a height of approximately 180 cm. The smallest ones have a diameter of about 77 cm with a height of about 60-90 cm. Some of the stone vats have knobs inside. A *kalamba* is usually made of sand stone (see picture 3).

**Picture 2. The Distribution of Stone Vats in Lore Valley Area (Poso Regency, Central Sulawesi Province)**





**Picture 3. Various shapes of stone vats (kalamba) in Lore Valley Area**



Most of the stone vats are plain but there are some decorated ones. Some of them have covers. Kaudern once mentioned that the *kalambas* of Bada Valley were undecorated, unlike those found in Besoa Valley that are decorated with human or animal figures. Surveys conducted so far revealed that among the *kalambas* found in several sites in the Besoa Valley, there are some that are decorated on the container as well as its cover. The decorations consist of geometric designs, pit-markings, animals (monkey), human face and sun flower (Tim Penelitian 1995).

Some human motif was presented with 8 faces, which is parallel to that found in the hills of Gunung Kidul with 4 faces, facing the four cardinal points, symbolizing the unity of the four tribes that inhabited the said area. They can be grouped into the semi-sacred aesthetic objects (Sukendar 1987: 42). It is obvious that these reliefs show none of aesthetic elements, the magic-religious aspect forms the main objective. This fact is shown by the reliefs that are not proportionally carved, static, and incomplete, such as with no ears and mouth. Circular line motif carved horizontally was meant as decoration. Haris Sukendar grouped this kind of decoration into profane aesthetic objects (Sukendar 1987: 65). Kruijt (1932: 12-15) concluded on the basis of motifs depicted on megaliths in Sulawesi that they are of Dongson affiliation and were therefore constructed in the Bronze-Iron Period. For instance, human heads depicted on stone vats resemble those depicted on bronze kettle-drums. More specifically, depictions on the stone lids resemble the four frogs depicted on the bronze kettle-drums of the type Heger I. Kaudern (1938: 102-115) agreed with such a suggestion. He noted the similarity between the stone vats found in Central Sulawesi and those found in Laos, where they occur with menhirs and grave tombs. An excavation near a Laotian menhir yielded a small bronze vase fragments of bronze bracelets, fragments of iron, and potsherds, clearly showing a Dongson affiliation.

The discovery of the monkey motif on the surface of the *kalamba* cover indicates that the bearers of the megalithic culture here were likely

followers of a totem cult. The concept of totemism among the Central Sulawesi is still present now, as is indicated by the belief that spirits usually can assume various animal forms. Particularly the monkey, it is also found as a statue in the Bada Valley. There is also information in the existence of the same clan that practiced clan totemism cult, with monkeys for totems.

Some stone vats in Bada area were found with covers, but some others without covers. The cover has disc-like shape with 1-2 m in diameter. The size of the cover frequently is not the same as the size of diameter or even the size of stone vats. The amount of the cover is less than the amount of stone vats. Some cover is decorated with carved figures of humans and monkeys face (see picture 4).

**Picture 4. Several shapes of stone vat covers (tuatena) in Lore Valley Area**



Nowadays the stone vats that are found have oily black soil or mud and water inside. Sometimes plants or weeds grow in that greasy black soil. These stone vats are also in damage, possibly a result of vandalism.

The stone vats in Central Sulawesi are usually found with other megalithic remains such as statues, pit-marked stone, tetralith, stone mortar, dolmen etc. (see picture 5)

**Picture 5. Several other megalithic structures in Lore Valley Area (such as dolmen, stone mortar, pit-marked stone, batu dulang, and statues)**



Haris Sukendar (1975) has conducted excavations in the Bada Valley. He excavated around the *kalamba* and managed to find artifacts such as round beads made of glass and white chalcedony beads of bi-conical shape. The excavation also found iron implements (adze, spearhead), bark-



cloth beater, fragmentary pottery presenting incense burner, pots, vessel/jar, bowls, etc., and quite plenty of potsherds. They were assumed to be equipment for funerary rituals. These objects were found in a layer that corresponds with the layer outside the *kalamba* which also contains elements of pottery. From these findings it can be concluded that the cultural layers were produced by people who also made the megalithic structures. Based on comparison of potsherds excavated in the sites on Padang Tumpuara and Padang Birantua, it can be concluded that the funerary rituals took place not far from or within their residence. Viewing the multitude of human bones found mixed in disarray and results of the excavation of *kalamba* no 3 in the Birantua site, it is apparent that the *kalamba* was used as secondary burial container..

At this time Besoa Valley is the site in Lore Valley area which is researched intensively. From the results of a test pit at *kalamba* no. 38 at Tadulako site (Doda Village), Besoa Valley produced findings and fragments of human skulls, teeth, fragments of pottery, stone *ike* (bark-cloth beater) and a stone tool (*pebble*) (Yuniawati 2000). From the observation of the right *humerus* bone by Rokhus Duë Awe, it has been estimated that then individuals were buried in it. While from the observation of the teeth by Harry Widiyanto, it can be seen that these teeth were entirely burnt, with the roots very fragile and easy to break or split, into small pieces. Because what the most dominant left is the crown of teeth (crowns), good length enamel starting from *kuspid* up to cervix, consequently, the dentine almost completely torn from the inside of the crown, or are still in place, but were cracked and very easily detached. The roots of the teeth left are only less than 30%.

We identified 10 upper right canine teeth, which indicates the existence of 10 adult individuals. Besides determining the minimum number of individuals was also performed on the second molar, M2. The results also showed the existence of 10 individual adults. In addition, in this set of teeth, outside of adult teeth, there are also two milk teeth (one molar and one canine tooth). This situation tells us that in addition to the 10 adults, there are also teeth of children, so at least we should consider of adding one more child. Therefore, based on these teeth, there are a minimum number of 11 individuals, i.e. 10 adults and 1 child. Based on morphological analysis of the entire series of teeth, incisors and canines were some visible existence of spade (*shovel-shaped*) on the lingual face. Incisors characteristic of this kind is a strong feature of the Mongoloid race.

From the analysis of the human skull, which has also been done by Harry Widiyanto, it is known that these people came from communities with Mongoloid characteristics. While other results show that there is an indication that tooth mutilation and the burning of the bones and teeth have been recognized, because the bones and teeth found at *kalamba* no. 38 are burnt and buried in *kalamba* (Yuniawati 2001).

Results of phylogenetic analysis conducted by Erwin Sentausa in 2003 showed that the DNA of 4 pieces right *humerus* bone of five human

individuals from *kalamba* no. 38 found at Tadulako site can be classified as a sequence of modern human DNA that is included in the Austronesia speaking population. Other phylogenetic approach is carried out by using genetic distance to show the kinship of the human DNA Tadulako with 5 populations in the current Sulawesi i.e. Minahasa, North Sulawesi ( $1.47 \pm 0.52$ ), Kaili, Central Sulawesi ( $1.30 \pm 0.43$ ), Toraja, South Sulawesi ( $1.29 \pm 0.49$ ), Mandar, West Sulawesi ( $1.25 \pm 0.44$ ) and Kajang, South Sulawesi ( $1.14 \pm 0.42$ ). From this phylogenetic result, it can be seen that bone sequence DNA in Tadulako site has more in common with a population of sequence DNA in Kajang (South Sulawesi) compared with other four populations sequences (Yuniawati 2008). Identification of sex performed by amelogenin gene analysis shows that the four bone samples taken from *kalamba* no. 38 in Tadulako site belong to females (Sentausa 2003; Yuniawati 2008). The date is unknown until now because the bone samples taken for analysis cannot be used for C-14 or EMS due to lack of some elements. Such process has been done in Australia.

Other site that has been observed is Pokekea which is also located in Besoa Valley area. Based on the excavation results, which is a dolmen that is flanked by megalithic statues, it can be concluded this location is a place to conduct ceremonial activities with disposal of pottery objects for ritual activities. This is evidenced by the features that indicate a deliberate placing of pottery objects which are put into the hole.

Furthermore, excavation in the area of the stone circle (*stone enclosure*) is carried out as well. It's still a bit difficult to infer the behavior of society at that time with the context of pottery finds. However, based on the presence of abundant decorative pottery in particular, without any other artifacts such as tools of everyday activities or weapons, it is possible that this activity can also be associated with the activity of a ritual or ceremonial activities which involve a great deal of individuals to do it. One thing for sure, this square area was not used as a burial place for there is no skeleton nor jars as burial containers (Yuniawati 2004).

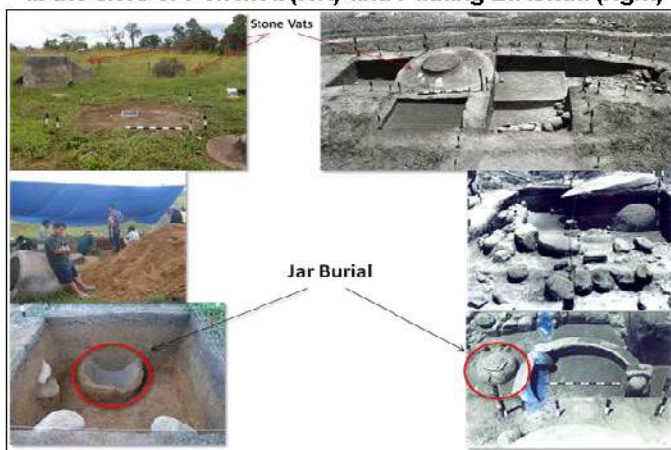
From the dating results of C-14 at Pokekea site, charcoal was taken from spits 6-11, and it is near urn burial and *kalamba*, and we obtain a date of  $2170 \pm 120$  BP after calibrated, it is concluded that the time span is 510 BC - 80 AD.

From excavations since the year 2004-2008, we obtain information that in any excavations around *kalamba*, there are jugs which are quite large in size with a diameter of 50 cm. It is fairly tight and solid and located on stratigraphy mound that looks a bit higher compared to the other findings (Siswanto 2005). It is assumed that the jars were used as buried container. With *kalamba* findings as buried container and other grave-jar findings, it is accepted that Pokekea Site was used for the burial, and also as a place of worship activities and daily activities as well. This assumption is based on the findings from excavations at the flat table and megalithic statues. The findings are pottery objects that have a variation in the shape and size. Although the function of these sites varies, but there was possibility that

there had to be division of place to do certain activities, though until now the pattern is unknown.

With the discovery of buried containers such as *kalamba* (stone vats) and jars made of clay, some question may arise, whether these findings are still in the same period or not. Or was there social stratification for those buried in the *kalamba* and in jars? These questions come up because the data obtained from the excavation is still very little. We often found *kalamba* has already been damaged due to vandalism, while at grave-jars findings the data obtained are very fragile (see picture 6).

**Picture 6. The positions of stone vats (*kalamba*) with burial urns at the sites of Pokekea (left) and Padang Birantua (right)**



Entovera site is located approximately 4-5 km from Pokekea site. It is on a hill that is relatively higher compared to other sites. It has an altitude about 1200 meters above sea level. It is bounded on the north by Mount Polana, on the west by Padang Tokolemo, on the south by Tunduwanua Mount, and on the east by the rice paddies and villages. The site is located in a meadow, with a water source which comes from nearby rivers namely Bingkulu and Entemahu Rivers.

Due to the great findings of stone base, which in Behoa (Besoa) is known as *oboka*, and the number of findings of stone and mortar stone are located near the stone base (*oboka*) it is predicted that this site is a residential site. This settlement site is also predicted as a place to do either religious or worship activities (this is evidenced by some of the findings of a dolmen, menhir, sculpture), and workshops (this can be viewed from the statues, stone mortar etc. which have not been finished yet). The supply of raw materials here is also quite abundant.

From the assumptions above, excavation to find out what activities that had been done in it was performed in 2008. The excavation was done to seek charcoal which can be used as calendar analysis as well. The selection of excavation box is based on the findings that are considered to have potential indication as a place of settlement (residential), funerals,



ceremonial, and workshop activities. Excavating those six boxes resulted in fragments of pottery both plain and ornate, fragments of animal bones, fragments of tools made of rocks (cobble, flat rock, grinding,) or metal (bracelets, weapons); beads were also found but only a little.

From the dating results analysis C-14, it is noted that this site is the oldest megalithic sites in Indonesia. The calendar analysis was taken from the box KII (spit 4-9), whose presence near the mortar stone number 159, the analysis was  $2460 \pm 120$  BP after calibrated time span is 831 BC - 232 BC. Meanwhile, from the calendar analysis C-14 from the box KIII (spit 6-9) whose existence is near Menhir number 6,  $2890 \pm 120$  BP the analysis after calibrated time span is 1387 BC - 831 BC.

## CONCLUSION

Based on results of researches carried out thus far, it can be seen that the megalithic finds in Lore Valley have Austronesian protohistoric characteristics, as shown by the stone vats (*kalambas*), as well as other finds.

1. The existence of stone mortar, indicates that the communities were already familiar with farming activities that include planting rice or thrashing cereal plants to separate the husks from the grains. It was predicted that a considerable number of inhabitants lived in the Besoa Valley area. This is based on the findings of hundreds of stone mortar, which are grouped in several sites such as in Entovera, Padang Hadoa, Tunduwana, Padang Taipa (Yuniawati, 2002).
2. Tray stones, may suggest that they might also have reared domesticated animals (dogs, buffalo),
3. Megalithic statues and also flat table (dolmen) prove that they were familiar with ancestor spirit worship which was carried out by the burial ceremonies, pottery making, and growing rice.
4. The community must have used bark cloth materials as a barkcloth beater was found in the site. Traditional clothes are still worn by the women in Lore Valley area. The clothes are made of bark cloth. In some places around Besoa Valley area, bark cloth are still manufactured.
5. From the dating of C-14 samples collected in association with megalithic sites in Besoa Valley, it can be said that the sites are among the oldest megalithic sites in Indonesia. The C-14 datings obtained from Entovera Site are  $2890 \pm 120$  BP and  $2460 \pm 120$  BP, while another datings from Pokekea site is  $2170 \pm 120$  BP.
6. Regarding the genetic affiliation, the closest DNA characteristics of the DNA found at the Tadulako Site is with that of the Kajang tribe in South Sulawesi. Presumably, the community who built the megaliths kept contact with the outer world. This is evidenced as well in the existence of the imported beads and red slip pottery fragments.

From the available data, it is apparent that Lore Valley is an area prolific with potential archaeological site. These sites may be related to Austronesian settlement in proto-historic period. It is hoped that further studies on the dispersal of stone vats (*kalambas*) and other archaeological finds will give us a clearer picture on the migration and origin of these stone vats (*kalambas*). The challenging question is whether or not the kalamba originated in Indonesia then dispersed to other areas.

Until recently some archaeologists still face problems concerning the megalithic, especially the aspects of diffusion, development, and also similarities and differences effected by migrational factors. Furthermore, most still use out of date theories, for instance about the origin and dispersal of megalithic tradition. In addition, up to the present archaeologists still have to borrow theories of distribution from the field of linguistics, like the one advocated by Kern, who concluded that the megalithic tradition that was once prevailed in Southeast Asia including Indonesia, East Asia, and the Pacific came from Champa, Cochin China, and Cambodia (Kern 1889). This theory was later used by Heine Geldern to support his theory, which states that the megalithic culture found its origin in Continental Asia (Heine Geldern 1945: 147-151), whereas Van Heekeren came up with assumptions that the makers of megalithic objects in Besuki, Bali, Flores, and Sumba belong to the same people. They then followed one of the migration routes that came from Southeast Asia and reaching Indonesia spread in two directions: one towards Sumatra and the other towards Kalimantan and Sulawesi and later turned southwards to Besuki and Nusa Tenggara (Heekeren 1941:15; Soejono 1977:166).

Kruyt has also speculated that the builders of megalithic objects (including the *kalamba*) in Central Sulawesi belong to the group of people that came by the migration route from the north with its origin in Japan (Kruyt 1932: 14). Regarding the migration from Japan, David Bulbeck agrees with this hypothesis on the basis of dental morphology, and believes that the preceramic occupants of the island arc from South Sulawesi to Okinawa, and possibly including ancient Japan, constituted a coherent population. Further, the preceramic denizens of South Sulawesi and Okinawa could conceivably lie near the ancestral roots of most late prehistoric and recent Indonesians, and (with slightly less confidence) Melanesians. However, in that case, late prehistoric and recent South Sulawesi lowlanders would then owe part of their ancestry to early Holocene populations from west of Okinawa. A potential source suggested by historical linguistics would be South Cina (Bellwood 1997: 112; Bulbeck 2004: 240-242).

The above theory and hypothesis regarding the migration from Japan to South Sulawesi need to be followed up, due to the fact that recent data provides information on similar DNA between human remains from Lore Valley in Central Sulawesi and the Kajang people in South Sulawesi.

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