STONE JAR IN SUMBAWA: DISTRIBUTION, TYPE, AND TECHNOLOGY

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Abstrak. Tempayan Batu di Sumbawa: Distribusi, Tipe, dan Teknologi. Di bagian barat Pulau Sumbawa terdapat peninggalan megalitik berupa tempayan batu, yang tersebar di beberapa tempat di Kabupaten dan Kota Bima (Nusa Tenggara Barat). Penelitian yang dilakukan di kawasan ini lebih difokuskan pada persebaran situs-situs, bentuk-bentuk tempayan maupun teknologi pembuatannya. Hasil penelitian telah menunjukkan adanya 8 situs yang tersebar di tiga desa meliputi Desa Rora, Palama, dan Kumbe, dengan jumlah temuan sebanyak 21 buah yang terdiri dari 18 wadah dan 3 tutup tempayan batu. Berdasarkan tipe morfologi membuktikan adanya beberapa bentuk yang membedakan dengan tempayan-tempayan batu yang ditemukan di kawasan Lembah Napu, Besoa, Bada di Sulawesi Tengah, Toraja di Sulawesi Selatan, dan Samosir di Sumatra Utara. Selain itu fakta juga memberikan adanya bukti-bukti teknologi berupa jejak-jejak pengerjaan pada tempayan batu.

Kata kunci: tempayan batu, persebaran, tipe, teknologi

Abstract. *To the west of Sumbawa there are stone vats, a part of megalithic culture, which spread at several sites in the Regency and City of Bima, Sumbawa Island (West Nusa Tenggara). The study carried out in this area was more focused on site distribution, shapes of jars, and manufacturing techniques. Investigation result reveals eight sites dispersed at the villages of Rora, Palama, and Kumba, where 21 jars are found. The jars consist of 18 bodies and 3 lids. The morphological types show some stone jars that are different from the types found in other parts of Indonesia, such as Napu, Besoa, Bada Valley (Central Sulawesi), Toraja (South Sulawesi), and Samosir (North Sumatra). In term of technology, it shows that stone jars indicated some traces of scratch on it.*

Keywords*: stone vat, distribution, type, technology*

1. Introduction

Megalithic is one of cultural human behavior which spread over the world. Researches on megalithic remains in Indonesia have begun early already and are still going on. But until now, the influx of megalithic came to Indonesia is still in dispute.

In 1907, MacMillan Brown commenced early assumption about the derivation of megalithic culture. He has a judgment that megalithic culture embodied traces of a "Caucasian race" which had come via the Mediterranean region and southern Asia. Some scholar concurred with this idea that the megaliths must be endorsed to a "Caucasian race" with emigrated from Asia to Europe on one side and to the southern Pacific on the other. That conception however was soon abandoned by scholars working in prehistory because of contradiction with archaeological facts (Mulia 1981). Perry's hypothesis (1918) gave another chance of the origin of the megalithic, that they came to Indonesia from ancient Egypt, carried out by people in quest of gold and metal who claimed themselves to be descendants of the "sky-world". This nebulous theory was not workable because of not have satisfactory data. According to Heine Geldern's theory distinguished at least two groups among the megalithic complexes in Indonesia. First called the Older Megalithic Culture indicated

from Neolithic period and second, described the Younger Megalithic Culture designated during the bronze and early Iron Age (Heine-Geldern 1945). Heine-Geldern's find no support among the scholars. They consider them far too effortless and no supporting stratigraphic evidence has been found (Glover 1979:101), also no carbon dating used (Prasetyo 2006). In keeping with that history of research carried out by foreign scholar, a number of problems arise as to the megalithic development and presence in Indonesia. Topic of discussion will converges on the shape and dispersion one of aspect megalithic culture in island of Sumbawa.

According to classification, Indonesian megaliths consist of upright stone (menhir), stone table (dolmen), stone coffin (sarcophagus), stone statue, stone mortar, stone trough, stone cist, stone jar (stone vat), stone chamber, stone terrace, stone cairn, stone seat, cubical stone, cup-marked stone. Stone jar is one kind of megaliths found in Indonesia and just only four areas having stone jar within it, i.e. Napu, Besoa, and Bada Valley in Central Sulawesi, Samosir in South Sumatra, Toraja in South Sulawesi and Sumbawa Island (West Nusa Tenggara).

The earliest reports concerning the stone jar was conducted by Walter Kaudern in Central Sulawesi at 1938. He found some stone jar (*kalamba*) together with some type of megalith such as statue, dolmen and stone mortar (Kaudern 1938). Further research in Napu, Besoa, and Bada valley continued by The National Research Center of Archaeology and Manado Archaeological Bureau (Prasetyo 1994/5; 1995/6, Yuniawati 2000). In the Sumatra Island, reporting stone jars from Samosir Island also done by Schnitger (1939) and Simanjuntak (1982, 1996). They found stone jars collectively with sarcophagus, dolmen, and statue. Stone jar also found in Sumbawa Island, which offers great potential for understanding Indonesia's megalithic culture and fill a lack of stone jar distribution in Indonesia.

Information on the remains of stone jar in Sumbawa Island was first described by The Office Sub Region of History and Archaeological Heritage (Bidang Permuseuman, Sejarah dan Kepurbakalaan) West Nusa Tenggara Province. This report about finding stone jar in Wadu Nocu and Wadu Ntari has stimulated further research. Later on, the team of archaeological research from The National Research Center of Archaeology conducted by Bagyo Prasetyo undertook survey in island of Sumbawa. The result of survey noted down and made description of megaliths finding in several sites at Rora, Palama, Kumbe, and Pananae villages in Sumbawa Island especially in city and regency of Bima (Prasetyo 2000). Based on the report, the paper is presented as an effort to offer some insights into the presence of the Sumbawa's stone jar in the development of Megalithic culture history in Indonesia. The target to be reached addresses the forms, technology, and distribution of stone jar.

2. The Problem and Method

The important issues arising from the megalith findings in Sumbawa Island bring together on the stone jar. Focus arguing put emphasize on stone jar as unit analysis which is defined as a cylindrical shaped and has a disc-shaped cover. The presence of stone jars is still requiring explanation i.e. distribution, form, style, and technology. For the reason, study of the interrelationship between formal and spatial properties of stone jars accepts an independent scaling of each dimension considered. In practice formal descriptions are made by analyzing artifact form into a number of discrete attribute systems. But in that case, qualitative attributes apply to derive the typology of stone jars. Qualitative attributes are by definition those properties of artifacts which are already recognized as representing discrete segments of behavior, and accordingly they can be placed on the attribute list without further analysis. By the concept of type, Chang refer to a class of objects

or phenomena that share common attributes but contrast with other types in not sharing their characteristic attributes (1967:79). Types are designed to reflect the overall appearance of an artifact. Morphological types attempt to define broad generalities rather than focusing upon specific traits, simultaneously considering as many attributes as possible (Thomas 1979:216).

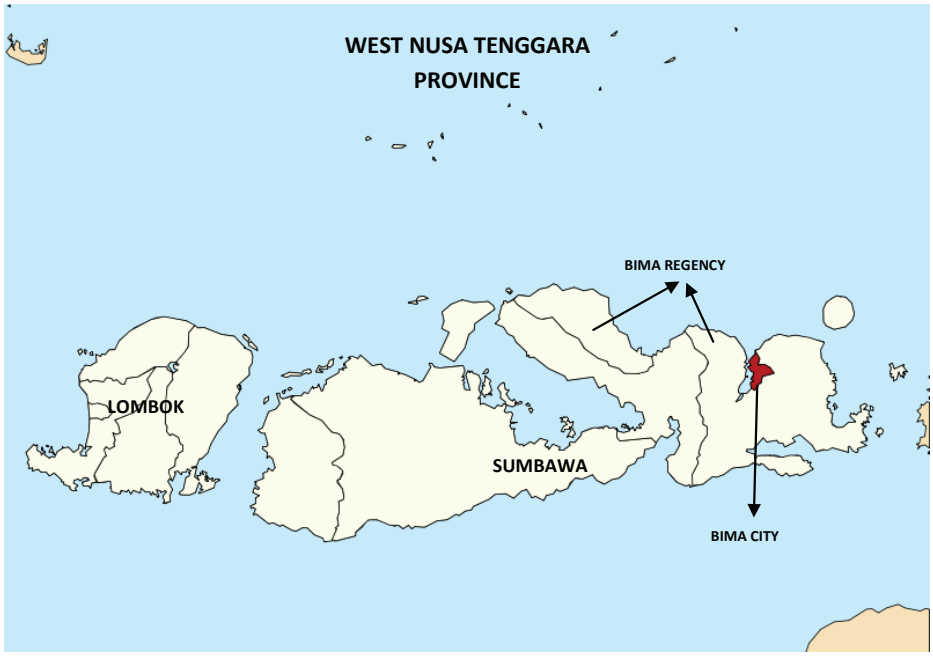
In order to space-form relationship can be derived from the spatial position and formal typology of artifact. The relationship is a direct one: artifacts which are formally close tend strongly toward spatial closeness (Spaulding 1971:34-35).

3. Physiographical Setting

Bima is one of city and regency located in Sumbawa Island (West Nusa Tenggara Province) which is found stone jar of megalithic. This area is situated between 08º20' - 08º30' Southern Latitude and 118º41' - 118º48' Longitude East (Bima City) and 08º20' - 08º30' Southern Latitude and 118º41' - 118º48' Longitude East (Bima Regency). Geographically, Bima area divided into hinterland and seashore zone within a range of altitude from 0 -1500 meters above sea level. Hinterland zone is the most dominant area (85%), and notified by the existence of surging land in the form of mountains within a range of 400 to 1500 meters, above sea level in altitude, while the seashore zone (only 14% of area) is indicated by the existence of alluvial area along the beach side and is gradually becoming more surging as it moves into the hinterland region within 0-400 meters range of altitude. The north-south-eastern part of region is bordered by sea and gulf of Waworada, Mua, Sape, and some cape such as Lagundu, Tenawu, Batu Besar, Ambalawi, Naru, and Rono.

4. Distribution Sites of Stone Jar

Stone jars in Bima investigated in Donggo district (Bima Regency) and Rasanae district (Bima City). Nevertheless the area of Donggo has more megalithic sites than Rasanae. Most of stone vats usually make from the raw material of andesitic or volcanic breccias. This research that took place in Donggo district has indicated that some megalithic site was found in Rora Villages which is a hinterland area having surging and mountainous characteristic and range of altitude about 350 to 500 meters



Map 1. West Nusa Tenggara Province and Island of Sumbawa

No	Site Location	Geographic Landscape	Land relief	Elevation (above sea level)	Outcrop
1	Danau Mango	Mountainous	Surging	490 m	andesitic, volcanic breccias
2	Madepinga	Mountainous	Surging	357 m	andesitic, volcanic breccias
3	Dorombolo	Top of hill	Flat on the top, surging its surrounding	410 m	volcanic breccias
4	Kadanga Mandada	Mountainous	Surging	540 m	andesitic, volcanic breccias
5	Doro Ndano Belanda	Top of hill	Flat on the top, surging its surrounding	500 m	volcanic breccias
6	Doro La Nahi	Mountainous	Surging, interval with valley	470 m	Andesitic
7	Songgerokupa	Mountainous	Surging	430 m	Andesitic
8	Doro Kumbe	Top of hill	Steep	160 m	Andesitic

Table 1. Geographic Region of Stone Jar Remains

Districts	Villages	Sites	Subject	Materials
Donggo	Rora	Danau Mango	2 stone jars without lid	Volcanic breccias
		Madepinga	2 stone jars and 1 lid	Andesitic and volcanic breccias
		Dorombolo	1 stone jar without lid	Volcanic breccias
		Kadanga Mandada	2 stone jars And 2 lids	Andesitic
		Doro Ndano Belanda	1 stone jars without lid	Volcanic breccias
		Doro La Nahi	2 stone jars without lid	Andesitic
	Palama	Songgerokupa	6 stone jars without lid	Andesitic
Rasanae	Kumbe	Doro Kumbe	2 stone jars without lid	Andesitic

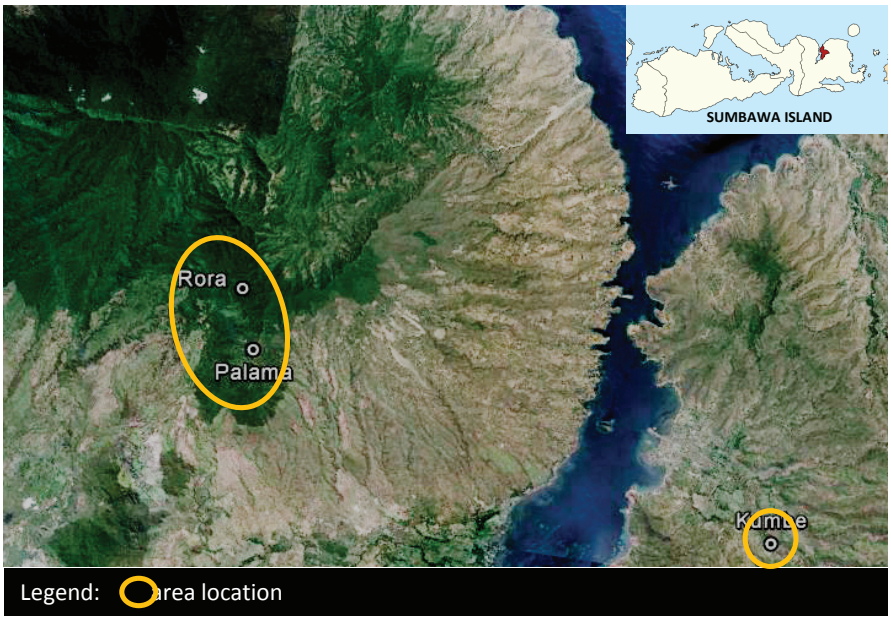
Table 2. Sites distribution and amount of stone jars in Bima

above sea level. About six stone vats sites were found at Danau Mango, Madepinga, Dorolombo, Kadanga Mandada, Doro Ndano Balanda, and Doro Lahi in the village of Rora. These areas initiated more natural block stone raw material such as andesitic and volcanic breccias. The other one originated at Songgerokupa site in Palama village which designated by a hinterland area having surging characteristic and altitude about 430 meters above sea level. But in Kumbe village (district of Rasanae) verified only one stone jar site. This site determined more natural block of andesitic and lied on top of mound.

About 18 of stone jars unearthed in Sumbawa Island and scattered at eight sites with different raw materials and quantities. Most of stone jars found in Donggo district (Bima Regency) comprised 16 covers and 3 lids, but only 3 covers of stone jars established in Rasanae (Bima City).

5. The Morphological Type and its Distribution

Stone jar in Bima is one kind of megaliths which intermittent found in Indonesia. They consist of cylindrically shaped and have a disc-shaped cover. The jars and covers are sometimes carved with decorative patterns. According to morphological type, stone jar in Bima separated



Map 2. Distribution area of stone jars in Bima (from google map)

into two types consist of cover and lid form. Cover of stone jars has three main types; instead of it the lid has two main types.

5.1 Cover of stone jars

(1) Cover of stone jars type A

The cover stone jars indicated a cylindrical longitudinal section, it consist of three kinds of subtype.

a. Subtype A1

There is an asymmetrical body characterized with its upward conical form the bottom side is wider than the top side, and upright mouth form. This subtype divide into three variant, comprise:

a.1 Variant A1a

This variant is characterized by mouth side has no incision/notch. The distribution of this form can be found at Madepinga, Dorokumbe, Dorombolo, and Songgerukopa Sites.

a.2 Variant A1b

Variant A1b indicated by mouth has incision/notch. This form can be revealed at Kadanga Mandada sites.

a.3 Variant A1c

This variant is different from variant A1a and A1b, which mouth has no incision/notch, but has vertical block ornaments. This form indicated at Songgerokupa site.

b. Subtype A2

The shape is an asymmetrical body characterized with its downward conical form (the top side is wider than the bottom side), upright mouth form without incision/notch. This form derived at Madepinga Site.

c. Subtype A3

While subtype A1 and A2 have an asymmetrical body, subtype 3 shown a symmetrical body (upside and downside part in equal width) with upright mouth form having incision/notch. This form only established at Kadanga Mandada site.

(2) Cover of stone jar type B

Type B is cover of stone jars designated by rectangular longitudinal section, with two kinds of subtype.

a. Subtype 1

This subtype is an asymmetrical body

characterized with its upward conical form, and upright mouth form without incision/notch. This form can be shown at Doro Ndano Belanda Site.

b. Subtype 2
Different from subtype 1, this subtype is symmetrical body with upright mouth form without incision/notch. This form can be found in Danau Mangu Site.

(3) Cover of stone jar type C
Type C is cover of stone jars assigned by oval longitudinal section, with:

a. Subtype 1
Characterized by symmetrical body (upside and downside part in equal width), mouth having incision/notch. This form can be found in Danau Mangu Site.

b. Subtype 2
Subtype 2 distinguished asym-metrical body (conical upward form), mouth has no incision/notch. This variant can be found in Dorokumbe Site.

5.2 Lid of Stone Jars

According to lid form, there are two main types of lid form. Those are:

(1) Lid of stone jar type A
This type characterized with cylindrical longitudinal section, having roof in dome/ cap form. This type is decorated with folded ornament and half circle curve. In the tip of the hat there is a hole supposed to tie a rope. This type indicated in Kadanga Mandada and Madepinga sites.

(2) Lid of stone jar type B
Type B illustrated by cylindrical longitudinal section, having roof in dome/ cap form without ornament on the top. While down side part is curving and form such a stair with gradual reduction in diameter upward. This type was found in Kadanga Mandada Site.

Figure 1. Cover of stone jar subtype B1 at Doro Ndano Belanda Site

Figure 2. Cover of stone jar subtype C2 (left side) and variant A1a (right side) at Doro Kumbe

Based on that classification, we can note that stone jar with cylindrical and upward conical form is the most popular in Bima region and especially in Donggo District. The engraved motif on this stone vat is not quite various. Besides notch on mouth or vertical block carving there are no other applied ornaments. This fact has been differing Bima's stone jar from those found in Toba Lake or Central Sulawesi where many variation of ornament is prominent.

6. Man Make of Stone Jars

Examination of stone jar making technology is based on raw materials used. There are two kinds of raw materials including andesitic and volcanic breccias. Volcanic breccia is very easy to be processed by picking the stone contained in it. But such away would not

Figure 3. Stone jar from Pokekea Site (Besoa Valley, Central Sulawesi) with mask decorative pattern (left side). Stone jar from Buntu Pune Site (Toraja, South Sulawesi) (right side)

result in fine product because this raw material contains many small to large size gravels. On the contrary, andesitic raw material needs some though workers and instruments in its treatment. It is notified that an instruments used during those days have involved metal materials in small to large chisel form. Some stone vat indicates some traces of scratch about 2 to 3 cm in size. Such vat cap that has been found in Kadanga Mandada or Madepinga sites surely needs persevering on its treatment because its rather complicated work in forming such notches/incisions.

So far, no indication on what these stone jars was functioning in. It is because the content of the jars had been fully stirred up or lifted, thus make it so difficult to find out such containment. While the stone jar found at Tadulako, Besoa (Valley Central Sulawesi) was identified to be functioning as human corpse cover in primary or secondary graveyard (Yuniawati 2008).

7. Conclusion

Based on the survey that has been taking place in Donggo District, we can resume that megalithic remains in Bima area especially in Donggo and Rasanae District is dominated by stone jar form. So far there is no indication of the function the relics has supposed, because the test-pit that has been taking into it indicates the existence of some disturbance.

The technology for stone jar manufacturing in that area can be mentioned as quite simple because of its lack of style and ornaments like found in Torajas. This differ from what has been found in Tomok (North Sumatra) or Besoa and Napu (Central Sulawesi) where variation in style and ornaments are more splendid. The existence of abundant stone sources in the form of andesitic or volcanic breccias has supported the development or megalithic culture in this region. Stone blocks have been utilized by in place transforming into stone vat or other megalithic facilities without moving them from their origin.

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