Shape and Chronology of Wooden Coffins in Mamasa, West Sulawesi, Indonesia

ABSTRACT: Toraja-Mamasa ethnic is one of ethnics that dwell in Mamasa Regency, West Sulawesi Province, Indonesia. They have inhabited the region from ancient times until now and have a variety of uniquely cultural forms, and it is interest to study. One form of cultures that characterize the culture of Mamasa is a burial system placed in a limestone hills with wooden coffins. The research of wooden coffin in Mamasa was conducted by a systematic survey and sampling methods for radiocarbon dating. The study found 21 sites with a dozen pieces of coffins, which consists of boat-shaped or “bangka-bangka”, buffalo-shaped or “tedong-tedong”, horse-shaped or “narang”, round-shaped or “talukun”, and house-shaped tomb or “batutu. Wooden coffin burial sites are always located not far from villages, rice fields or gardens, and located in the south or southwest of the old village. The lay outs of the coffins are always on the sand stone hills with south or west orientation. Differences in shape, layout, and orientation are strongly influenced by factors of trust, cosmology, and social stratification concept. The dating results shows that wooden coffins have been used since 730 ± 50 BP or about 1200 AD (Anno Domini) and keep continue until the 1970’s.

KEY WORDS: Wooden coffin, Mamasa community, radiocarbon dating, differences in shapes, trust, cosmology, and social stratification concept.

INTRODUCTION
Toraja-Mamasa ethnic is one of ethnics that dwell in Mamasa Regency, West Sulawesi Province, Indonesia. They have inhabited the region from ancient times until now and have a variety of uniquely cultural forms, and it is interest to study. One form of cultures that characterize the culture of Mamasa is a burial system placed in a limestone hills with wooden coffins.

There have been no archaeological experts who examined the wooden coffin in the region; so, the distribution of site, form, layout, dating, and cultural significance is not known scientifically. Therefore, it is necessary to study archeologically to understand the various aspects before it destroyed, and becomes extinct of natural processes such as weathering and damaged by treasure seekers.

This article describes the results of wooden coffins research in Mamasa, West Sulawesi, Indonesia. The study conducted on October 2010 in Mamasa Regency in a systematic survey: inventory, documentation, and sampling for dating. Dating aimed to determine the age and development of wooden coffin in the area chronologically by the method of radiocarbon analysis at Beta Analytic Inc. Laboratories, 4985 S.W. 74 Court Miami, Florida USA (United States of America).

OBJECTIVES OF THE RESEARCH
The objectives of the study are to: (1) conduct the survey, looking for wooden coffins sites for inventory and documentation purposes. Through this survey, it can be recognized the number of sites and wooden coffins findings on each site as well as

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recognize the shape, size, and state of wooden coffin in the area; (2) taking samples to determine the chronology of wooden coffins, using radiocarbon dating method chronometrically; and (3) knowing the meaning that causes the differences in shape and layout of wooden coffins in Mamasa.

**DISTRIBUTION OF WOODEN COFFIN SITES IN MAMASA**

The results of archaeological surveys that had been conducted in Mamasa found 21 sites, for example Buntu Balla site (*Tedong-tedong Minanga*), Orobuia, Paladan, Balla “Kalua”, Kopian, Salulo, Minanga, Osango, Kanan-Kanan, Karassik, Peu', Tatale, Tambun, Salu Lemo, Rambu Saratu, Rampan, Tabang, Sasakan, and Missawa. Here are descriptions of each site (Tangdilintin, 1981; and Duli, 1999).

**A. Buntu Balla Site (Tedong-Tedong Minanga).** Buntu Balla site is located in Balla Village, Balla District, Mamasa Regency, West Sulawesi Province. The site is about three kilometers from the axis road of Polewali-Mamasa or from Balla City. Burial site in Buntu Balla is usually called by locals as *Kubur Tedong-tedong Minanga*, located on a hill top with coordinates S03°00'01.7", E119°19'137", altitude 1.097 meters above sea level. Around the site, there are small rivers, fields, gardens, woods, and the homes of local residents.

According to the local information, it is said that the burial site at Buntu Balla is not original, because the original site is located on the edge of a cliff in Sariayo River about 100 meters in the north of Buntu Balla site. Transfer of burial sites occurred about 60 years ago due to massive flooding that washed away a party of wooden coffins on the site. The transfer was made with the approval of the chairman of the customs, led by Nek Sallun and Bongga Saratu. After having visited the original site, it found that there are no remains of wooden coffins can be observed, because there had been eroded that washed away of the site.

There is no sign about who is buried in the coffin found in Buntu Balla site, but two names: *Nenek Patompo* and *Nenek Ami*, as the last two traditional leaders buried in the buffalo-shaped coffin, but it is no longer known which coffins are used. According to the genealogy calculations, the age of the coffin is about 860 years ago. All forms of the coffins exist on the site are used for the burial customs of the chairman or the nobility of Parengnge’ Balla (personal communication with Demmatayan, 9/10/2010).

The state of Buntu Balla site is now protected by the government by making permanent buildings with thatched roof of Mamasa traditional house. There are 18 pieces of wooden coffins, 11 pieces buffalo-shaped coffins (*tedong-tedong*), seven boat-shaped coffins (*bangka-bangka*) on the site lined up from north to south by west facing, and there are two boat-shaped and buffalo-shaped coffins that are damaged.

The samples (MMS 01, MMS 02) for radiocarbon dating were taken from the wooden coffin number six (damaged boat-
shaped wooden coffin) and number 15 (damaged buffalo-shaped wooden coffin), to determine the oldest or the earliest age of the coffins on the site. The result of each sample are MMS 01 = 280 ± 40 BP and sample 02 = 380 ± 40 BP respectively. The numbering of timber was ordered from north to south line for the easy of description. Onside the coffins, there are many piles of bones and skulls that are irregular, and also found fragments of pottery, and bronze bracelets of shells.

B. Orobua Site. The site is located in Orobua Village, Sesena Padang District, Mamasa Regency, West Sulawesi Province. The coordinate of the site are S02°59’25.5”, E119°24’03.9”, with an altitude of 1,223 meters above sea level. It is 200 meters distance from the village in the south. In the north and west side, there are rice fields, villages, and Orobua River; and in the south and east side, there are gardens and woods. The site is located on the sandstone cliffs and there is a new burial site around it.

There are three pieces of wooden coffin found: boat-shaped (bangka-bangka), buffalo (tedong-tedong) and round (talukun), and a house-shaped tomb (batutu). Boat-shaped coffin, round-shaped coffin, and batutu grave are empty because the bones and skulls have been moved into a new burrow (burial stones inserted into the hole), while the buffalo-shaped wooden coffins still contains a lot of bones and skulls. The orientation of batutu grave is north-south, while the boat-shaped and round-shaped coffins located on the east side, whereas buffalo-shaped coffin is located on the west side of batutu with east-west orientation.

The attractive finding is buffalo-shaped coffin hollowed out from both ends and is very large. The coffin is 340 cm long, 145 cm high, 84 cm hole diameter, 378 cm circle, and 6-20 cm wall thickness. The buffalo-shaped coffin had rotted at the foot portion, had no ornaments, while the head and antlers still intact. A sample was taken from the wooden coffin (MMS 03) for radiocarbon dating with the result is about 730 ± 50 BP.

According to the local information, it is said that the first person buried in the buffalo-shaped coffin is Parengnge (the first leader) who established the Orobua Village, Nenek Puang Bongga, in about 600 years ago. In the east side there is an old Orobua Village with two custom houses: Banua Sura’ as a place of custom leaders and Banua Layuk as a traditional governmental leader (personal communication with Bongga Tiboyong, 12/10/2010).

C. Paladan Site. The site is located in Paladan Village, Sesena Padang District, Mamasa Regency, West Sulawesi Province. The coordinates of the site are S02°59’53.0”, E119°22’56.2”, with an altitude of 1,324 meters above sea level. The site is located on a hill of sandstone, on the west of the old village with a distance of 800 meters, rivers and rice fields in the north, there is a garden around it. There is also a new burial site around it used by the locals.

The coffin findings in the site are boat-shaped coffin (bangka-bangka), buffalo and horse shaped coffins (tedong-tedong and narang), and a batutu grave. Boat-shaped
coffin is located on the south side of batutu with east-west orientation, 228 cm long, 104 cm wide, and 130 cm high. The state of the coffin had rotted so that the bones and skulls found can be seen from outside. There is no decoration on the coffin, but the surface was given black color. The coffin is taken sample (MMS 04) for dating with the result is about 390 ± 50 BP.

On the north side of batutu grave and boat-shaped coffins, there are buffalo-shaped and horses-shaped coffin placed in Mamasa traditional building (tadang) with a north-south orientation. The end portion of buffalo head-shaped coffin is facing to the south, while the other side of a horse head-shaped is facing north. The material of the horse’s head is different from the coffins body, and it seems new.

According to the information from local people, it is said that the horse’s head used to be united and come from the same wood with the body of the coffin, but in about 1970, it was stolen. In 1980, the head was renewed and matched again (personal communication with Demmatayan, 9/10/2010). The sizes of the buffalo-shaped and horse-shaped coffins are 340 cm long, 102 cm wide, and 120 cm high. At the top of the coffin there is a cover, and the entire portion of the coffins found several motifs of Mamasa traditional carving (pa’sura’).

Batutu grave found on Paladan Site is similar to the architecture of Mamasa traditional houses without carving, but given the black color. On the front and rear side, there is a boat-shaped coffin. Batutu grave orientation is north-south, with a long of 240 cm, 180 cm wide, and 288 cm high. Onside the grave, it used as a place to store the dead bodies or skeletons. Batutu grave was taken a sample (MMS 05) to find out the dating, especially to compare the age with the other coffins. The result is 500 ± 50 BP which means that the age is contemporary with the boat-shaped and round-shaped coffins. Other findings around the site are fragments of pottery, bone, jaw pig, and tau-tau (ancestral statues of wood).

According to information from local people, it is said that the first person buried at that site is the first indigenous custom leader named Nek Lento and his wife, Nek Tasi’ Langi’. Both were buried in boat-shaped coffins around 1450 AD (Anno Domini). During 1640 AD, the nobles and their families were buried in a batutu grave. The last Paladan heroes against the Dutch colonialists, named Demmatande, buried in buffalo-horse shaped coffin, where the coffin form has been known since about 1800 (personal communication with Bongga Tiboyong, 14/10/2010).

When the Dutch came to power in Mamasa region in about 1890, the custom of burying the corpse into a coffin has started to decrease, because the Dutch government banned it, although the people still practiced it. Subsequent burial is replaced by batutu grave type or incorporated into the soil (lianglo’ko’). In the past, coffins are also often incorporated into the soil hole, it happened when the family is not able making a wooden hut as a place to store a corpse coffin.

D. Balla’ Kalua’ Site. Balla’ Kalua’ site is located in Balla Village, Sangtanetean, Balla District, Mamasa Regency, West Sulawesi Province. The coordinates of the site are S02°58’07.4”, E119°19’23.0”, with an altitude of 1,291 meters above sea level. The distance from Balla’ Kalua’ Village is about 300 meters in the east, located on the top of the hill covered with shrubs. On the south side, there are rice fields and small rivers; and on the east and north side, there are gardens of local residents. Balla’ Kalua’ Village is a Mamasa traditional village, which consists of several custom home communities.

Findings on the site are two round-shaped coffins (talukun) that had been damaged. The orientation of the coffin is east-west, with the size of the first coffin are 204 cm long, 70 cm diameter, and 3-4 cm wall thickness. The coffin was taken sample for dating (MMS 06), the result is the age of about 580 ± 40 BP. While the second coffin cannot be measured since has seriously damaged. Other findings around the site are fragments of pottery, skulls, bones, fragments of metal, and coconut shells.

According to the narrative of the local people, it is said that the people who buried at the site are the traditional chief of Balla’ Kalua’ Village, but they no longer know the names.
The grave is estimated to be used at that time about 700 years ago (personal communication with Simon, 12/10/2010).

**E. Kopian Site.** Kopian site is in Kopian hamlet, Kariango Village, Tawalian District, Mamasa Regency, West Sulawesi Province. Coordinate of the site is S02°55’51.3”, E119°24’03.9”, with an altitude of 1,189 meters above sea level. The site is located on the summit of a sandstone hill. Distance from the old village is about 650 meters in the west, around the site there are streams and fields, and gardens of local residents. Finding on the site is a single round-shaped coffin (talukun) that has been damaged and type of batutu grave. The sizes of the coffin are 196 cm long, 54 cm wide, 4-5 cm thick wall with a north-south orientation. The coffin was taken sample (MMS No.7) for dating, but not selected for analysis because it is not representative. The site was burned once. The other findings are the fragments of pottery, skulls, bones, and the remains of charcoal from wood.

**F. Salulo Site.** The site is located in Bambasola, Lembang Salulo Village, Mamasa District, Mamasa Regency, West Sulawesi Province. The coordinates of the site are S02°57’43.5”, E119°20’52.4”, with an altitude of 1,145 meters above sea level. The site is located on the summit of a sandstone hill. The distance from the old village is about 400 meters in the north, and there are fields and gardens around it and Mamasa River in the south. The findings on the site are two pieces of wood that supposed to come from the pieces of boat-shaped coffins (bangka-bangka), lay on the west side of batutu grave with a length of 183 cm, 50 cm wide, and 3-5 cm thick. The coffin was taken sample (MMS No.7) for dating, but not selected for analysis because it is not representative. The site was burned once. The other findings are the fragments of pottery, skulls, bones, and the remains of charcoal from wood.

**G. Minanga Site.** The site is located in Minanga, Kariango Village, Tawalian District, Mamasa Regency, West Sulawesi Province. The coordinates of the site are S02°56’13.2”, E119°25’03.8”, with an altitude of 1,220 meters above sea level. The findings on the site as much as nine pieces, five boat-shaped coffins (bangka-bangka), three round-shaped coffins (talukun), a horse-shaped coffin (narang), and two batutu graves. In the first batutu grave, there is one horse-shaped coffin located on the south side with east-west orientation; the second batutu grave, there are eight piece of coffins, a boat-shaped coffin is located on the south side and two boat-shaped coffins are on the east side. There are also two boat-shaped coffins and one round-shaped coffin on the north side, and two round-shaped coffins on the west side. The orientation is east-west and north-south. Other findings on the site are fragments of pottery, shells, and jaws of pigs. Around the sites are still used as a new burial site by local people; that is a burial of a corpse in the ground include the perforated (lokko’ or liang) and the building of batutu grave of wood or cement. The coffins found on Minanga site cannot be measured in more detail, because it is not allowed by the chairman of the local custom. According to their belief, if the rice is in the rice fields, it is not allowed to touch the objects in the grave, but still allowed to see and take photos directly. Samples were taken clandestinely of boat-shaped coffins number 1 (MMA 09) and the batutu grave 1 (MMS 10) for dating, but when analysis in the laboratory, the samples are not selected because they are new. It can be seen from the color and texture of the wood used that looks freshly. The sizes of the boat-shaped coffin are 293 cm long, 70 cm wide, and 90 cm high. According to the local stories, it is said that the people who were buried at the site were the custom leader and their family (personal communication with Arruanpawa, 15/10/2010).

**H. Osango Site.** The site is located in Osango Village, Mamasa District, Mamasa Regency, West Sulawesi Province. The coordinates of the site are S02°57’01.1”, E119°21’27.6”, with an altitude of 1,163 meters above sea level, lies on the sandstone cliffs. The distance from the old village is about 400 meters in the west, while in the south, there are fields and Mamasa River and there are gardens of local people around it. The findings on the site are four wooden coffins: one boat-shaped coffin (bangka-bangka) and buffalo-shaped coffin (tedong-tedong) and two round-shaped coffins.
(talukun). Boat-shaped coffin is 280 cm long, 63 cm wide and 133 cm high. The coffin is located on the south side of the batutu grave 1 with north-south orientation. Buffalo-shaped coffin located under the cupola of Mamasa traditional house-shaped with east-west orientation. On the body portion, there are some decorative motifs with 240 cm body length, 88 cm wide, and 98 cm high.

According to the local information, it is said that the head portion of the coffin is gone because it was stolen: a buffalo’s head portion is located on the south side, while the horse’s head is on the north side (personal communication with Arruanpawa, 15/10/2010). Round-shaped coffin found in the left-right of batutu grave 2, with the size of each is 205 cm long, 71 cm diameter, and 189 cm long, 80 cm diameter respectively. Batutu grave is 357 cm long, 235 cm wide, and 360 cm high; and in the front portion, there are several Mamasa motifs carved. The size of batutu grave 2 is almost equal with batutu grave 1, the difference is in batutu grave 2 have no motifs and have a one black color only, and both are east-west oriented.

Other findings around the site are a jaw fragment of pottery and pigs. The bodies were buried in the buffalo-shaped coffins were heroes of a couple of husband and wife named Pong Galunggu and his wife named Langi’ Kampun. Early use of the site is approximately at the time about 600 years ago. While on the boat-shaped coffin buried a first chairman called Nenek Bangga Seba. In recent times, the nobles were buried in batutu (personal communication with Arruanpawa, 15/10/2010).

I. Kanan-kanan Site. Kanan-kanan site is in Mamake Village, Tanduk Kalua District, Mamasa Regency, West Sulawesi Province. The coordinates of the site are S03°01’30.6”, E119°17’56.7”, with an altitude of 990 meters above sea level, lies in the lowlands in the middle of rice fields. Wooden coffins are arranged with north-south orientation into a Mamasa traditional house building. The distance from the old village is about 260 meters in the west. Around the site there are houses, gardens and fields, and Mamasa River on the north side.

According to the local information, it is said that once the wood coffins were on the top of a sand stone hill located approximately 400 meters in the south, but due to a lands cover then moved to its present site in 1982 (personal communication with Simon, 12/10/2010). The findings on the site are five pieces of wooden coffins: one boat-shaped coffin (bangka-bangka), two buffalo-shaped coffins (tedong-tedong), a horse-shaped coffin (narang), and a round-shaped coffin (talukun).

J. Other Sites. Other sites found in Mamasa are Karassik site, Peu’, Tambun 1, Tambun 2, Balla’ Peu’, Salu Lemo, Rampan, Tatala, Tabang, Sasakan, and Missawa.

THE MEANING OF FORMS DIFFERENCE AND THE DEVELOPMENT OF WOODEN COFFIN IN MAMASA REGION

Distribution of wooden coffin sites in Mamasa region is in the valley along Mamasa River, which extends longwise from north to south and empties into the Strait of Makassar. The valley region is located at an altitude between 800 – 1,400 meters above sea level, which is a very fertile area and suitable for agriculture. The forms of coffins found in the areas are boat-shaped (bangka-bangka), buffalo-shaped (tedong-tedong), horse-shaped (narang), round-shaped (talukun), and the type of batutu grave.

Differences in the form of coffins are strongly influenced by the factors of trust, social stratification, and the development. Trust based on respect for ancestors and cosmology concept, in particular, to be done by the social class aristocracy symbolized through the use of different coffins in form. Wooden coffins used only by the high social class, the nobles, and relatives. But the status of each nobleman is also different according to the roles while still alive, such as the chairman and the servants of government or as a portion of the traditional family. All these roles are symbolized by using different coffins.

Batutu grave used by the higher nobility, boats-shaped coffin (bangka-bangka) are used by middle nobility, buffalo and horses-shaped coffins (tedong-tedong and narang) used by the wealthy duke and brave; while round-shaped coffin (talukun) used for lower nobility
and the soldiers or servants of the kingdom. While ordinary people or simply are buried into stone holes (liang lo’kok) without wooden coffin.

The culture of wooden coffin in Mamasa region is one that characterizes the culture of Toraja-Mamasa ethnic that has evolved since the beginning along with Tongkonan and various religious rites, such as those reflected in the ritual of Rambu Tukak or Rambu Solo. According to the local community (personal communication with Demmatayan and Bongga Tiboyong, 14/10/2010), provide an explanation that difference in social status about who is buried in the wooden coffin sites determined by the type of the graves and coffins used.

High class nobility (tana’ bulaan) buried in the batutu grave, high-class nobles and courageous heroes or person (tana’ bulaan) buried in buffalo-shaped coffin (tedong-tedong) and horse-shaped (narang).
class nobility (tana’ bassi) that are wealthy economically buried in boat-shaped coffin (bangka-bangka). The lower class of nobility (tanak bassi or tanak karurung) that are economically poor buried in round-shaped coffin (talukun). Low social classes were buried in the ground which made the holes in the cliff of the hill (liang lo’kok).

Wooden coffins believed by the people to be the vehicle used their ancestors sailed from the island to the other side of Mamasa, and used as a symbol of the boat spirit for a trip to the nature spirit (puya). Orientation of the coffin is always placed facing south and west. It is very closely related to beliefs and social status, because both directions are considered as the direction of the ancestral spirits dwell. The general nobleman is believed reside in puya located in the south, while the nobility that comes from the descendants of Tomanurun (the god of the sky) will return to their home in the sky – through the west direction that is believed to be the way to heaven. Thus, the differences of wooden coffins in Mamasa are greatly influenced by belief and social systems sourced from the aluk todolo teachings (from ancestral custom rules) that govern the various aspects of Mamasa-Toraja community in the past until now.

Laboratory analyses of the samples, were taken from several sites, showed the age of the coffin found in several sites in the region. Although it is realized that there are many heritage sites of coffins that have not been surveyed mainly due to limitations of time, effort, and money. However, the sites have been surveyed are the most significant representative of the true population, due to the selected sites historically have been located in the area that became centers of the culture of Mamasa people, both in the past and at the present.

The selection of sites in Mamasa, existed in Balla, Rambu Saratu’, Orobua, Paladan, Tabang, Sumarorong, and Missawa. Overall wooden coffin sites, that have been surveyed as many as 21 sites, take samples for radiocarbon dating that be analyzed in the laboratory as much as seven samples derived from five selected sites, i.e. sites that are considered old and the coffin has not experienced replacement or renovation.

The results of radiocarbon dating in the sample of wooden coffin in Mamasa, it was found that the oldest age is about 730 ± 50 BP, or about the year 1200 AD (Anno Domini). Thus, the early development of wooden coffin in Mamasa region is in the period of 1200 AD and is still practiced by local people to continue in the period surrounding the 1970’s.

When referred to the early use of coffins in Mamasa, then, the earliest coffin used is a buffalo-shaped coffins (tedong-tedong) found on Orobua site. The others coffins like boat-shaped (bangka-bangka), round-shaped (talukun), and tomb types batutu grave grow later. Clearly, the high nobility were buried in wooden coffins in buffalo-shaped and was followed later by another form of coffins.

It is also closely related to the mythology of Mamasa people who think that their first ancestor, Nenek Pongkapadang, come from Tana Toraja (Toraja Sa’dan) to bring a buffalo and dogs (Kruyt, 1923:170; Nooy-Palm, 1979:18 and 110-111; Tangdilintin,
CONCLUSION

Distribution of wooden coffin sites in Mamasa region is in the valley region along the Mamasa River, with an altitude between 800 – 1,400 meters above sea level. The forms of coffins found: boat-shaped (bangka-bangka), buffalo-shaped (tedong-tedong), horse-shaped (narang), round-shaped (talukun), and the tomb-shaped like traditional houses (batutu) with a variety of sizes made by a kind of uru wood (elmerillia celebica dandy). The lay out of the coffins found at each site is located at the foot or top of limestone hills, not far from the village or field rice. Similarly, wooden coffin is always placed on the south or southwest of the old village, with the south or west orientation.

Differences in shape, layout, and orientation of the coffins are strongly influenced by the factors of trust, social stratification, and the development. Trust based on respect for ancestors and cosmology concept, in particular to be done by the social class aristocracy symbolized through different shape of coffins. Wooden coffins used only by the high social class, the nobles, and relatives. But the status of each nobleman is also different according to the roles while still alive, such as the chairman and the servants of government or as a portion of the traditional family. All these roles are symbolized by using wooden coffins that look different.

The results of radiocarbon dating in the sample of the wooden coffin in Mamasa found that the oldest age is 730 ± 50 BP, or about the year 1200 AD (Anno Domini). Thus, early development of coffins in Mamasa region is in 1200 AD or even earlier times and is still practiced by local people continued until around the 1970’s.

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