

THE DISTRIBUTION OF MEGALITHS IN BONDOWOSO (EAST JAVA, INDONESIA)

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ABSTRACT

This paper presents the results of surveys of megaliths in Bondowoso, situated in East Java. Megaliths were here first reported by Steinmetz (1898), followed by Van Heekeren (1931), before being excavated by Willems (1938) in the village of Pakauman in Bondowoso. During our 1995 and 1996 surveys in the Bondowoso area we found a large number of megaliths in numerous sites. They lie in the plane, on the slightly sloping foot of the volcanoes, and on the ranges of the hills. The megaliths consist of dolmens, sarcophagi, stone chamber graves, kenong stones (cylindrical stones), mortars, menhirs, monoliths, and statues. Different megalithic forms dominate in each site, producing ten groups of sites based on their composition.

INTRODUCTION

Megalithic research in the region of Bondowoso (Figure 1) may be divided into two main periods. The first period was marked by early antiquarian work, undertaken by Dutch investigators before World War II. The second period has been promoted by the researchers of the National Research Centre of Archaeology (including Balai Arkeologi Yogyakarta as a branch office).

The earliest record of megaliths in Bondowoso was reported by Steinmetz (1898) who supplied data on megalithic objects such as sarcophagi, *pandhusa* (hybrid dolmens), stone mortars, and *kenong* (cylindrical) stones in the villages of Kretek, Kemuningan, Tanggulangin, Pakisan, Tlogosari, Sukosari and Pakauman. This resulted in the classification of megalithic objects into *pandhusa*, sarcophagi, megalithic statues, and *kenong* stones. Subsequently, Willems (1938) carried out a survey and excavation in the Pakauman site and presented evidence that the hybrid dolmen had been used as a grave. He also documented approximately 94 megalithic objects consisting of *pandhusa*, statues, and groups of *kenong* stones spread across the Pakauman, Maesan and Tamanan area.

The second and current period began with the estab-

lishment of the National Research Centre of Archaeology (NRCA). Increasing interest in the megaliths of Bondowoso led to their research by the Yogyakarta branch office of NRCA, with a survey of Wringin and Grujugan in 1983, excavation of *batu kenong* at Grujugan in 1985, and excavation of a sarcophagus at Pakauman in 1992. Furthermore, in 1995 and 1996 the Department of Prehistory, NRCA, organized a study into the distribution and typology of megaliths in Bondowoso (Prasetyo 1995, 1996). The subject of this paper is the results of that research into the types and distribution of megaliths in Bondowoso.

THE PHYSIOGRAPHIC SETTING

Bondowoso lies in East Java province about 180 kilometres southeast of Surabaya (the capital of East Java). It is situated in a valley which has the form of a wide plain or, technically, an intermontane basin. It is surrounded by a range of hills and mountains, defined in the west by the eastern portion of the Iyang Range, in the east by the Ijen Range, and in the north by the Ringgit-Beser Range which is part of the Kendeng cordillera.

According to its geomorphologic characteristics, Bondowoso can be divided into four units. These are the valley plain; the slightly sloping area towards the volcano in the southeast; the hills near Ringgit Mountain, along with the slopes along the Iyang and Ijen mountains; and finally, the volcanic cones found in the Iyang Mountain area, such as the mountains of Pandu, Welirang, Semar, Cemara and Argopuro (Pendowo 1991).

THE MEGALITH SITES

Current evidence shows that the Bondowoso Megalith Complex consists of 47 sites, which can be assigned to three of the geomorphologic units. 21 sites lie on the plain, 12 sites on the slightly sloping land in the southeast, and 14 sites on the hills. The zone of volcanic cones has not yet yielded any megalithic sites.



Figure 1. Map of East Java showing Bondowoso (cross-hatched rectangle)

The megaliths on the plain include numerous dolmens, sarcophagi, monoliths, groups of menhirs, stone mortars, statues and *kenong* stones (Table 1). Survey of the twelve sites on the slopes of the volcanoes in the southeast has documented a large number of dolmens, monoliths, stone mortars and *kenong* stones (Table 2). Sites lying on the ranges of hills are characterised by numerous dolmens, sarcophagi, stone chambers, *kenong* stones, monoliths, stone mortars, menhirs and statues (Table 3).

The recorded sites in the Bondowoso region may be assigned to ten groups based on their array of megaliths and location in the study area.

GROUP 1

Sites: Banyaputih, Wringin, Glingseran, Jatisari
Megaliths: Sarcophagi, dolmens, monoliths, menhirs, *kenong* stones

GROUP 2

Sites: Tanggulanin, Kretek, Gentong Tegalampel, Kemuningan
Megaliths: Sarcophagi

GROUP 3

Sites: Karanganyar Tegalampel, Nangkaan, Pejaten, Sukowiryo, Bondowoso, Kademangan Kulon, Curah Poh
Megaliths: Sarcophagi, dolmens

GROUP 4

Sites: Sumberanyar, Kalianyar, Pakauman, Taman, Wanisodo, Wonosari Grujugan, Sumberpandan

Megaliths: Sarcophagi, dolmens, *kenong* stones, statues

GROUP 5

Sites: Dawuan, Suger, Kodedek, Penanggungan, Tanah Wulan
Megaliths: Sarcophagi, dolmens, *kenong* stones, mortars, monoliths, menhirs, stone chambers

GROUP 6

Sites: Pakisan, Gentong Tlogosari, Tlogosari, Sulek
Megaliths: Sarcophagi, dolmens, *kenong* stones, mortars, monoliths

GROUP 7

Sites: Jebung Lor, Jebung Kidul, Maskuning Kulon, Kesemek, Patemon, Lombok Kulon
Megaliths: Sarcophagi, dolmens, *kenong* stones, mortars, monoliths, groups of menhirs

GROUP 8

Sites: Sumbergading, Sukorejo, Nogosari
Megaliths: Sarcophagi, stone chambers

GROUP 9

Sites: Karangsegon, Karanganyar Klabang, Besuk, Taal
Megaliths: Stone chambers, statues, menhirs

GROUP 10

Sites: Prajekan Lor, Tarum, Suling Kulon
Megaliths: Sarcophagi, dolmens, menhirs

Table 1. Megalith sites on the plain, Bondowoso

No.	Sites	Megaliths
1-5.	Patemon, Lombok Kulon, Pejaten, Tarum, Sukowiryo	Dolmens
6-7.	Sulek, Penanggungan	sarcophagi, dolmens
8.	Kesemek	dolmens, monoliths, groups of menhirs
9.	Maskuning Kulon	dolmens, monoliths
10.	Sumberanyar	<i>kenong</i> stones, monoliths, stone mortars
11-16.	Karanganyar Tegalampel, Suling Kulon, Kademangan Kulon, Curah Poh, Nangkaan, Bondowoso	sarcophagi
17.	Taman	dolmens, <i>kenong</i> stones
18.	Pakauman	<i>kenong</i> stones, dolmens, statues, sarcophagi
19-20.	Sumberpandan, Kalianyar	<i>kenong</i> stones
21.	Prajeakan Lor	menhirs

Table 2. Megalith sites on the volcano slopes, Bondowoso

No.	Sites	Objects
1.	Gentong Tlogosari	dolmens
2.	Pakisan	dolmens, monoliths, stone mortars, <i>kenong</i> stones
3.	Jebung Lor	dolmens, sarcophagi, stone mortars, <i>kenong</i> stones
4.	Jebung Kidul	sarcophagi, dolmen, <i>kenong</i> stones
5-11.	Tlogosari, Tanggulangin, Sumbergading, Sukorejo, Gentong Tegalampel, Kretek, Kemuningan	sarcophagi
12.	Suger	<i>kenong</i> stones, menhirs

Table 3. Megalith sites on the hilly ranges, Bondowoso

No	Location	Objects
1.	Tanah Wulan	dolmens, sarcophagi, monoliths, stone chambers, <i>kenong</i> stones, stone mortars
2.	Dawuan	dolmens, monoliths, <i>kenong</i> stones, stone mortars
3-4.	Kodedek, Wonosari Grujugan	<i>kenong</i> stones
5.	Banyuputih	monoliths, sarcophagi, menhirs
6.	Wringin	sarcophagi
7.	Glingseran	sarcophagi, monoliths, <i>kenong</i> stones, dolmens
8.	Jatisari	sarcophagi, <i>kenong</i> stones
9.	Wanisodo	dolmens
10.	Karangsegon	stone chambers, statues, menhirs
11-14.	Besuk, Nogosari, Karanganyar Klabang, Taal	stone chambers

TYPES OF MEGALITHS

As indicated above, the megaliths of the Bondowoso Megalith Complex have been classified into eight general forms, after Soejono (1982, 1984). These are sarcophagi, dolmens, menhirs, statues, stone chambers, *kenong* stones, monoliths and stone mortars.

The sarcophagi are generally shaped like a boat, and can be divided into two types. The large specimens have

blunt ends and are undecorated. The smaller ones have pointed ends and are sometimes decorated.

Two types of dolmens are recognised. The first is marked by a boulder supported by erect stones, and the second, locally called *pandhusa*, has a boulder supported by a wall of structural stone. In both cases, the supported boulder may be a *dakon*, having a pitmarked design on the upper surface. One of the *pandhusa* in the Pakauman site

has the shape of a hat, and the Gentong Tlogosari *pandhusa* has a trapezoid shape.

Kenong stones or *batu kenong* (the local name) are cylindrical stones with a knob on top. The name is adapted from a traditional musical instrument of Java. There are several types of *batu kenong*. Type A has cylindrical shape and one cylindrical knob. Type B has double cylindrical knobs while Type C has rounded knobs. Some of the *batu kenong* are arranged to form a circular or rectangular enclosure.

Stone chambers, found only in the hilly ranges, may be grouped into two types. The first had usually been made by cutting a hole into the rock to produce a cavity. The second was based on an existing hole in the sloping mountainside, with walls produced using stone slabs, and with a boulder to cover the top.

There are two types of stone mortars; the first was marked by one rounded hole, and the second by two holes.

Menhirs in Bondowoso are either single and solitary, or in groups. The groups of menhirs are usually arranged in a configuration of four to six menhirs.

The megalithic statues are in static rather than active pose. Sometimes they show only the head and body, without arms and legs.

There are only two types of monoliths, one without decoration, and the other, the *dakon*, with a pitmarked design on top.

CONCLUSIONS

Observing the composition of megalith sites in the Bondowoso area, one notes that sarcophagi are the most prominent form. They are found in every group except group 9. Several groups are indeed dominated by sarcophagi, such as groups 1 and 3, or even defined by the sole presence of sarcophagi (group 2). In groups 4 to 7, the megaliths seem to be more varied, and are generally dominated by dolmens and *kenong* stones. Groups 5, 8 and 9 show a novel element, the stone chamber, restricted to the hilly ranges.

Examining the distribution of the megaliths, we can show that sarcophagi are widely distributed in numerous

sites starting from the northwest (group 1), north (group 2), northeast (group 10), central area (group 3), south (group 4), and southeast (groups 6, 7 and 8). Further, it seems that the sarcophagi are dominant in groups 1, 2, 3, 8 and 10, which span the study area. As regards sites located in the central area (group 7), the south (group 4) and the southeast (group 6), the megaliths are more varied but are generally dominated by dolmens and pseudo-dolmens (*pandhusa*), and *kenong* stones. Group 5 (in the south) shows a dominance of *kenong* stones, followed by the stone chambers whose distribution also reached the southeast (group 8) and northeast (group 9).

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