



THE CONTRIBUTION OF RECENT DATA FROM ISLANDS IN THE NORTH JAVA SEA ON INDONESIAN PREHISTORIC ARCHAEOLOGY

Kontribusi Data Baru Pulau-pulau di Perairan utara Jawa dalam Arkeologi Prasejarah Indonesia

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Abstrak

Sejauh ini penelitian arkeologi prasejarah di pulau kecil banyak dilakukan di wilayah Wallacea. Penelitian tersebut menghasilkan banyak pengetahuan yang berkaitan dengan tema migrasi dan perkembangan budaya. Sementara penelitian sejenis di wilayah lain seperti pulau-pulau kecil di utara Jawa belum banyak dilakukan. Secara geokronologis pulau-pulau di perairan utara Jawa telah terpisah dengan Jawa setidaknya sejak awal Holosen dan secara budaya memiliki keragaman yang berbeda pula. Tulisan ini berupaya menyajikan hasil penelitian terbaru di Pulau Madura, Bawean dan Kangean serta berupaya untuk menempatkan data tersebut dalam konteks arkeologi prasejarah di Indonesia. Data yang digunakan dalam tulisan ini berasal dari hasil penelitian terbaru yang dilakukan tahun 2018 dan 2019 (data primer) dan studi pustaka (data sekunder) untuk memperoleh gambaran arkeologi prasejarah Indonesia di pulau tersebut. Temuan sisa manusia dan budayanya di Pulau Kangean secara kronologis dan teknologis dapat dimasukkan dalam konteks budaya preneolitik. Demikian juga temuan budaya lainnya di Pulau Madura dan Bawean. Informasi ini membuka perpektif baru mengenai sebaran tinggalan bukti kehidupan masa prasejarah di perairan utara Jawa baik sebagai tempat transit maupun sebagai lokasi tujuan utama dalam proses migrasi

Kata Kunci: Madura, Bawean, Kangean, Perairan Jawa, Prasejarah.

Abstract

So far prehistoric archeological research on small islands has exclusively been carried out in the Wallacea region. The research yielded a lot of knowledge related migration and cultural development. While similar research in other areas such as small islands in northern Java has not been explored much yet. This is because of the view that the condition of the islands is considered to be the same as that of Java. The islands were geochronologically separated from Java at least since the beginning of the Holocene and culturally different. This paper attempts to present the results of the latest research on Kangean Island as one of the small islands in northern Java and seeks to position the data in the context of prehistoric archaeology in Indonesia. The data used in this paper come from the results of a recent research conducted in 2018 and 2019 (primary data) and literature studies (secondary data) to obtain an archaeological picture of Indonesian prehistory. The chronological and technological findings of human remains and culture at the Kangean Arca Cave site can be included in the pre-Neolithic cultural context, as well as the remains at Madura and Bawean Island. The new information adds to the picture of prehistoric life in Indonesia.

Keywords: Madura, Bawean, Kangean, North Java Sea, Prehistory.

INTRODUCTION

Indonesia is in possession of floral, faunal, human and cultural richness, being an archipelagic nation. The configuration of

the archipelago consisting of hundreds of islands with the sea serving as the main

access results in abundant environmental or socio-cultural knowledge.

The configuration dates back to early Holocene, when the sea level set the Indonesian archipelago and Sunda Shelf and Sahul Shelf apart, ultimately forming such islands as Sumatera, Java, Kalimantan, Sulawesi, Papua and their surrounding small islands. The changing configuration certainly had come along with adaptation capacity and cultural development, driving the former mainland inhabitants to cope with the new living condition in the small islands. The settlement of small islands has proven to be interesting for further research in regards to pre-historic migration

The research on small islands has so far been dominantly carried out in Wallacea, most likely due to it being the stepping stone in the migration process (Tanudirjo, 2001, p. 1). The question worth asking is: “Is the phenomenon also found on the former Sunda Shelf formation, particularly to the north?”

Java, an island rich of biological resources, had been a center of migration since prehistoric time, proven by the availability of sites of various chronological orders, becoming a stepping stone or a transit point or even the main destination. The island consists of Kangean Island and its surrounding much smaller islands, Sapudi Island and smaller ones around it, Madura

Island and its smaller islands, Bawean Island, Karimun Island and its nearby islands, Masalembu Island and its surrounding (Alifah et al., 2018, 2019, p. 2).

The migration impact is discernable these days, where people from Madura, Java, Bali, Bugis, Manggar, Bajo, Banjar have lived together in harmony (Illouz & Grange, 2013, p. 25). Surrounded by the main islands, the small islands to the north of Java had seen a lot of migrations by several communities, some even chose to stay.

As has been put earlier, the islands to the north of Java are crucial as the sailing route or disembarking point; they are a group of islands with Kangean the biggest of all, as well as Madura and Bawean and the small islands around them.

In prehistoric archeology, the upgrade in sailing competence and navigation is closely related to the migration of Austronesian speaking farmers from Taiwan to Indonesia.

It was at this point that all cultures developing were considered Neolithic products, contributing to Indonesia being a house to a plethora of archeological findings. Some of the excavated sites include Sumatera (Ketut Wiradnyana, 2011; Simanjuntak, 2016), Kalimantan (Etie Fajari & Rusianti Kusmartono, 2013), Java (Noerwidi, 2008, 2012; Simanjuntak, 2009),

Table 1: Some Neolithic sites in Indonesia, gathered from various sources

Island	Site	Finding	Date	Reference
Sumatera	Gua Harimau	Burial, metal artefact, earthenware	3.464±42 Cal BP	Simanjuntak, 2016
	Loyang Mendale	Burial, stone artefact, earthenware	3580±100 BP	Wiradnyana, 2011
Kalimantan	Gua Patung	Earthenware, stone artefact	2.970±130 BP	Fajari dan Pervaya, 2014
Java	Limbasari	Square pickaxe, stone bracelet	3,570±210 BP	Simanjuntak, 2009
	Kendenglembu	Red slip earthenware, square pickaxe	1.332±35 Bp	Noerwidi, 2008
	Song Keplek		3.053±65 BP	Noerwidi, 2012
Sulawesi	Minanga Sipaka	Red slip earthenware, pickaxe, whetstone, bone tools	3.446±51 BP	Simanjuntak, 2008
	Kamassi	Red slip earthenware, obsidian tools, stone bracelet, beads	3.345±40	Anggraeni et al., 2014
	Malawa (Maros)	Flakes, square pickaxe, red slip earthenware, cornelian beads	3.580±130 BP	Simanjuntak, 2008

Sulawesi (Anggraeni, Simanjuntak, Bellwood, & Piper, 2014; Simanjuntak, 2008) (see Table 1).

METHOD

The current study considers research data on Kangean Island, Sumenep Regency, Madura Island and Bawean Island, Gresik Regency of East Java, with those of Kangean Island collected through surveys and excavations being the main data. The surveys were conducted by examining the overlay of geological map, contours and satellites imaging supported by notes taken on the locals. On the other hand, the excavation was conducted on a cave having been considered to be of the highest archeological deposits. It relied on the land extraction with spit the interval of which ranges from 5 to 10 cm, leading up to artefactual, ecofactual, and dates data. Information on Madura Island and Bawean Island were gathered through literature endeavors from related studies having been carried out.

On a positive note is that the existence of those islands have given birth to a much bigger opportunity to gain more archeological findings in such places, most likely serving as the entry points to the big islands nearby.

RESULTS AND DISCUSSION

1. Prehistoric Observation of the Small Islands to the North of Java

Geochronologically, the small islands to the north of Java had been formed since late Pleistocene to early Holocene due to extreme climate change during interglacial time; they were once a part of Island Java and Sundaland which later became what they are now (see The Change in Sea Water Level) (Sathiamurty & Harold, 2006).

Prehistoric traits are definitely apparent in the area, being the center of migration waves by means of sailing. It is even more interesting to ponder the extent those islands had played in prehistoric Indonesia, particularly in the areas nearby.



Figure 1: Bawean, Madura and Kangean Island in the North Java Sea. (Source: Modified by Dr.

Blofeld - <http://www.maps-for-free.com/>, CC BY 3.0,

<https://commons.wikimedia.org/w/index.php?curid=11943334> some modification)

Geologically, the islands are generally the same as northern Java by configuration (Alifah et al., 2018, p. 25; Bemmelan, 1946). They held a crucial role in being the central part of the archipelagic nation in cultural aspect to be exact. Several studies have been conducted in the islands; however, they commonly cover Islamic traits in colonial time. Palace, Islamic burials, those burials of the Dutch and colonial buildings like stronghold, housing complex and ports are found there, begging the question of the significance its prehistoric time.

a. Madura

Madura Island is the biggest of all other islands to the north of Java (Figure 1). Archeological research has so far focused on Islamic and colonial period. A research on prehistoric culture was carried out by Muda (2016). It provides an outline of prehistoric Madura and its position in the context of Island Southeast Asia.

Two of the excavated sites are Gua Toroan (Pamekasan Regency) and Gua Delubang (Sumenep Regency). The excavations at both sites opened up to 14 testpits with a depth ranging from 100 cm to 240 cm. The human remains yielded at the sites have indicated the existence of past settler of the islands; some of the remains include fragments of scapula, metatarsal, femur, pelvis, tibia, orbita dan phalanges (Muda, 2017, p. 175). In addition, other recovered fragments cover earthenware fragments, shell artefacts, bone tools, animal bones and clam shells, indicating the general picture of how cultural realm had evolved in Madura (Muda, 2017).

Muda concluded that the two phases of cultural development in Madura trace their origins to prehistoric and Neolithic time. Pre-Neolithic Madura dates between 4.470 ± 30 BP and 4.430 ± 30 BP, characterized by semi-sedentaire living which depends on the resources of remote locations and the mainland. The cultural

products include stone tools in the forms of flake stones, enabling the making of shredder. Stone and shell artefacts also belong in this period (Muda, 2017, p. 208).

The second phase has a close affinity to Neolithic culture, dated to 3.790 ± 30 - 1300 ± 30 BP. The islanders had settled and produced earthenware, bone tools and shell tools (Muda, 2017, p. 208).

The analysis made on the morphology of scapula bending onto masial indicated that prehistoric inhabitants of Madura are Austromelanesians (Muda, 2017, p. 175). However, the claim is far from well-established since postcranial part does not reflect strong distinction from other communities. Nevertheless, it has given way to upcoming research to solidify the current data.

It is interesting to wait for other conclusions to broadly confirm that Neolithic Madura at Gua Toroan was inhabited by Australomelnesians dated to 3.700 BP (Muda, 2016, 2017), owing mainly to the current view that Neolithic Indonesia especially in the central and west part was dominated by Austronesian speakers of Mongoloid genetics (Tanudirjo, 2019, p. 21).

Archeological observations of Island Madura have indicated that the culture practiced there is different from those coming from both Southeast Asia and Taiwan. The earthenware fragments of rope motif and of red slip as well as indication of crop planting are not found.

Muda (2017) demonstrated that pre-Neolithic Madura centered on collecting foods from remote locations and from the mainland area while their counterparts subsequently relied on marine sources.

Another study conducted by Regional Agency for Archaeological Research in Jogjakarta (2019) managed to find two settlement caves of Neolithic indication. The first is called Gua Putri Koceng located at Desa Geger of Kecamatan Geger (subdistrict), in Bangkalan Regency,



Figure 2. Pickaxes recovered from Bawean
 (Source: Jogjakarta Archeological Center, 2017 and 2018)

and the second one is Gua Kalak Barat in Sampang Regency. A test conducted in a pit recovered earthenware sherds and animal bone fragments (*macaca fascicularis*). To date, unfortunately, there has not been enough information in regard to chronological contexts of the two (Gunadi, 2019).

b. Bawean

Bawean Island's archeological context has so far been linked merely to Islamic and colonial setting. The burials of some big-name Islamic teachers and Indis-like buildings along with such infrastructures as port and mercusuar built by the Dutch, reflected the importance of this island in Indonesian sailing setting (Koestoro & Abbas, 1988; Priswanto, 2016). Also found is a stupika, most likely dating its origin to the classical time. A survey made by Jogjakarta Archeological Center (2017-2018) recovered square pickaxe, earthenware fragments and chert shaving and also silicean claystone, all excavated from several rivers near local housing complex and cave base (Figure 2). The square pickaxe was handed in voluntarily by the locals.

Despite further research lacking in the area, the lithic products recovered have

indicated that prehistoric life was apparent in the past, but it is only more evidence that will enable us to draw more conclusions.

c. Kangean

Kangean is only second to Madura as the biggest island in the northern Java (Figure 3). The formation is mostly dominated by karst dated between Miocene to Holocene (Alifah, *et.al*, 2018: 26). It is similar to Madura in terms of natural resources, with its lowland formed of alluvial layer as the most fertile parts, housing a lot of plants and animals. Water springs and caves mark the karst region. Colonial, Islamic and classical period are some of the archeological contexts recovered so far in the area (Koestara, 1997, p. 24).

Over the past two years, Jogjakarta Center has been excavating the island in an effort to present prehistoric culture possible, resulting in 10 caves with indication of prehistoric population. The prehistoric settlement is indicated by cave morphology, and the assemblage of surface findings like lithic artefacts, earthenware fragments, animal remains and calm shells. A cave has been thoroughly excavated while another two has been pit-tested. The former is Gua Arca, situated north of Kangean Island

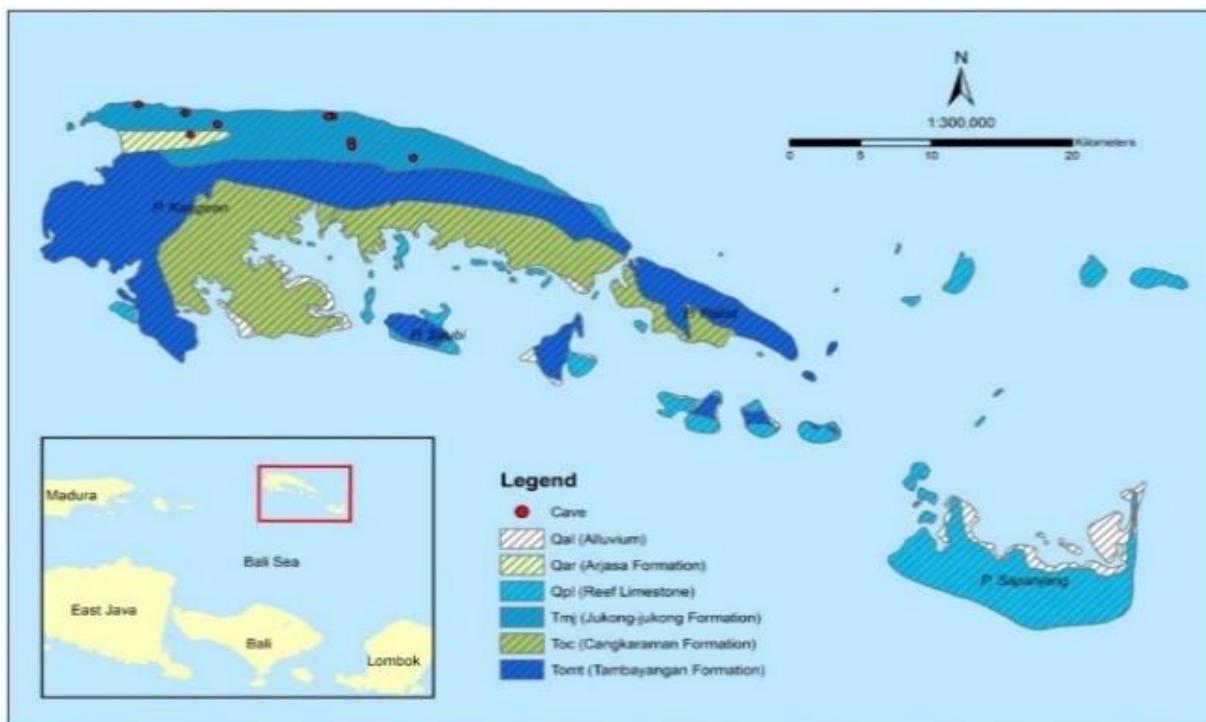


Figure 3. Geological setting and cave settlement in Kangean Island.
(Source: Alifah, et.al, 2019)

precisely at Desa Daandung, Kecamatan Kangayan, Sumenep, of East Java.

The excavation recovered an assemblage of animal bones and lithic artefacts. Aside of the two, it also resulted in earthenware fragments, bone tools, calm shells, fish bones, floral remains (charcoal, woods, seeds), ocher fragments and human bones (Alifah et al., 2019, p. 66).

Human population was confirmed by the recovery of the third phalange of the left middle finger as well as a right upper canine (Alifah et al., 2019), identified as skeletal remains of *homo sapiens* without any indication of the exact race (consultation with Prof. Harry Widiyanto in May, 2019), shedding a great prospect of revealing more of the human settlement in the Kangean area (Figure 4).

The excavation results put more weight to the assumption that Kangean culture is similar to those of Madura's and Bawean's, specifically in the morphology and materials of their lithic artefacts.



Figure 4. Limestone-coated phalanges of hominids at Gua Arca Site (Source: Alifah, 2019).

The two samples representative of two layers date between 1.416 ± 25 BP and 5.850 ± 44 BP (Alifah et al., 2019, p. 64). The dates can be much older than the ones recorded seeing the fact that archeological investigations in the region have not reached the sterile layer. The numerous remains yielded have provided evidence to support the conclusion that Kangean Island had had human occupation going on in prehistoric time, taking its center in cave settlement and stone tools technology to maintain the well-being of the hunter-gatherer society.

CONCLUSION

The Archeological Observation of the Small Islands in Northern Java in the Global Context

The archeological remains yielded at Madura, Bawean and Kangean Island have illustrated a chronological and technological setting going on in the region. Kangean Island has so far yielded the oldest date, tracing its origin to 6000 cal BP, while the other two being dated much later. That they settled cave and open site indicated a pre-Neolithic culture, characterized by lithic artefacts (flake, blade, pointed) and bone tools. Hunting and food gathering also marked the life system of these settlers, with earthenware fragments recovered in the upper layer.

The human migration along the coastal Java has been solely linked to settlement of the Austronesian speakers, due to numerous site reports indicating their presence; the sites include Plawangan,

Leran, Anyer, and those on the northern coast of Bali like Gilimanuk and Pacung Sembiran.

The observation has ultimately led to the sites in the north of Java being assumed to have contained similar remains. However, the latest report showed quite the opposite. Much older culture was recorded, even far much older than the one introduced by the Austronesian speaking farmers. If the observation in Madura really attests to a high degree of Austromelanesians being the inhabitants of the small islands until 3500 BP, then it surely contributes a great deal to the attempts made in understanding cultural assimilation and genetic development in Java and the areas nearby.

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