GEOARCHAEOLOGICAL CHARACTER AND PREHISTORIC CULTURAL PROCESS OF PONJONG - RONGKOP AXIS ZONE IN CENTRAL BLOCK OF GUNUNGSEWU

SUMMARY

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This research was conducted in the Ponjong - Rongkop Azis Zone, which is part of the Central Block of Gunungsewu in the Southern Mountaineous of Java. Whose position is flanked by two former ancient lake depressions that are the Wonosari Basin and Baturetno Basin. Its Morphological form is a hilly karst which lays from North to South between Ponjong and Rongkop, forming an axis nearly perpendicular to the general stretch of Gunungsewu. The edge of the northern border lays on a non-karst mountains and has the highest topography in the Central Block of Gunungsewu. This becomes upstream region for the underground rivers of Gunungkidul. Through several surveys, there are 56 caves having archaeological potential were found. Seven out of them have been excavated and showing evident of the prehistoric occupancy occupation from the Late Pleistocene to Early Holocene.

Geoarchaeological approach is carried out as an interdisciplinary study between archaeology and geomorphology, to perform integral construct models of the relationship between humans and landscape of Gunungsewu in the research area. Two main objectives of this study are: First, to explain the geoarchaeological character of Ponjong - Rongkop Azis Zone as a combination of geomorphological aspects (morphology, morphogenetic, morphochronology, and morphoarrangement) and archaeological aspects (distribution of potential archaeological cave). These goals are achieved through assessment and mapping of the potential cave distributions as archaeological sites which then analyzed to the relationship of the local geomorphological aspects. Second, to explain the process of prehistoric culture, namely the dynamic form of cultural residential caves and factors that influenced it. Methods to achieve this goal is contextual analyze of the archaeological data and its stratigraphy from the excavation conducted at the cave floors. Synthesis of the both achieving goal brings integral explanation to the geoarchaeological characters and prehistoric cultural processes in the research area, in term of the landscape context and their its change, the formation and site changes, as well as stratigraphic context.

Summary of:
Individual assessment of each cave using level of cave accessibility and cave morphology, prove that only eight caves (14%) have low potential as an archaeological site, while 48 caves (86%) have medium - high potential to be occupied. So far, there is no particular pattern between potential class of archaeological cave with geomorphological aspects (landforms), except for two rockshelters in *perbukitan karst linier* (K.01.b), namely Song Bajeng [22] and Song Wedi Kidul [35]. These two rockshelters have a low potency to be occupied due to their accessibility class is difficult - very difficult.

In fact, the relationship between cave distribution and geomorphological aspects in the research area more quantitative. Landform variation (five landforms) more affect the number or site formation opportunities, including cave, rockshelter, or collapse doline types. Meanwhile, potential class of cave as an archaeological site more cultural meaningfully, related to the decision making by prehistoric humans to occupy it through consideration of the accessibility and morphological classes, according to their occupation feasibility.

As presented in Table 4.6, *perbukitan karst marjinal* (K.01.a) are largely formed on Speleogenesa Level I, containing four sites only, consisting of three caves and one rockshelter. The local limestone lithology appears to be the cause. Lithological contact between this landform with non-karst area, namely Perbukitan Masif Panggung, resulting impurity limestone that not support the ongoing intensive karstification. The limited number of sites are also found in *perbukitan karst linier* (K.01.b), which only has two rockshelters with low potential class.
Perbukitan karst poligonal (K.01.c), only has eight sites, consisting of two caves and six rockshelters. This condition is affected by the lack of geological structure control which led to the less developed dry valley network. The only major geological structure that developed in this landform stretch out to the north on the border between Kenteng and Basuhan Village, then veer to the northwest leads to Umbulrejo Village. Along this structure, Lawa Cave and four other rockshelters be found.

Among the five existing landforms, perbukitan karst residual (K.01.d) and perbukitan karst labirin (K.01.e), are the two landforms that most likely produce the cave sites. As much as 42 sites (75%) were found, consisting of 20 caves, 21 rockshelters, and one collapse doline. The most sites in K.01.d more controlled by the purity of limestone, especially those growing in the middle zone. Geological structure and dry valley network in this landform has become less visible because it was generally degraded and fused with corrosion plains broader. Chalky limestone lithology that produce this landform ensure intensive formation of caves and rockshelters through karstification process. Meanwhile, the number of sites in K.01.e be controlled by the density of geological structures that trigger the intensiveness formation of dry valley network (labyrinth). Geological structures in K.01.e most tightly compared to four other landforms.

The second goal of this study is to explain the cultural prehistoric process, namely the dynamic form of cultural residential caves and factors that influenced it. This study prove that residential process of this zone has occurred continuously since the Late Pleistocene - Early Holocene, supported by two main races, namely Mongolid and Australomelanesid. They have developed a certain subsistence patterns which was supported by the diversity of habitats ranging from coastal to inland environment. So that, the duration of cave occupancy in Gunungsewu can last for thousands years without interrupted.

Chronostartigraphic analysis at Song Braholo [44] and Song Tritis [45], prove that residential caves in Gunungsewu growing rapidly since Holocene (10,000 BP), characterized by culture development from Paleolithic to Mesolithic/preneolithic. Most experts agree that global climate change during this period has led to a shift of the tropical moist forest down into the open forest. The most popular evidence of these global environmental changes are the extinction of orang-utan (Pongo pygmaeus) and gibbon (Hylobates syndactylus) of Punung Fauna (indicators of wet tropical forest in the Late Pleistocene) by monkeys (Macaca sp.). Several cave excavation in Ponjong - Rongkop Axis Zone obtain evidences that monkey have been used by prehistoric man as main dietary source since the Early Holocene.

Summary of : 
A synthesis of two objectives above confirms that landscape context and its changes, formation and changes of archaeological sites as well as stratigraphic context have been controlled by tectonic and geomorphological events. Tectonic events along Miocene - Pliocene to Late Pleistocene, has uplifted four terraces with a concentric pattern, where the ridge region of Tambakromo as the oldest terrace (elevation > 450 msl), surrounded by subsequent terraces on the lower topography around its to the wings hills.