



University of Jember
Faculty of Teacher Training and Education



PROCEEDINGS

3rd ICEGE 2020

The Third International Conference on Environmental Geography
and Geography Education

September 12th - 13th, 2020

at Faculty of Teacher Training and Education, University of Jember

PAPER • OPEN ACCESS

Preface

To cite this article: 2021 *IOP Conf. Ser.: Earth Environ. Sci.* **747** 011001

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The Electrochemical Society

Advancing solid state & electrochemical science & technology

The ECS is seeking candidates to serve as the **Founding Editor-in-Chief (EIC) of ECS Sensors Plus**, a journal in the process of being launched in 2021

The goal of ECS Sensors Plus, as a one-stop shop journal for sensors, is to advance the fundamental science and understanding of sensors and detection technologies for efficient monitoring and control of industrial processes and the environment, and improving quality of life and human health.

Nomination submission begins: May 18, 2021



The Third International Conference on Environmental Geography and Geography Education (ICEGE) 2020

Sumardi

Editor in Chief of International Conference on Environmental Geography and Geography Education 2020

E-mail: sumardi.fkip@unej.ac.id

We would like to express our gratitude to all participants joining “The International Conference on Environmental Geography and Geography Education” (ICEGE). The 3rd International conference held by the Department of Social Science Education held by FKIP-University of Jember on 12-13 September 2020. The participants of this ICEGE 2020 are research students, academicians and researchers, scholars, scientist, teachers and practitioners from many countries.

Due to Covid-19, this conference was held in dual-mode, namely online and face to face. For those invited speakers from abroad who have travel restrictions presented their research topics through zoom cloud meeting. Likewise, participants who stay outside Jember city joined the conference virtually. Meanwhile, participants from within Jember city joined conference in person by complying the Covid-19 protocol.

Two hundred forty-eight participants attended this conference. The number of submitted papers were 219 and papers sent to the reviewers were 198. Two reviewers reviewed one paper. Each reviewer reviewed maximum 8 papers. Based on reviewer recommendations, finally the number of accepted papers is 130. Thus, the acceptance rate is 59,4 %.

In the plenary season, each invited speaker presented their presentations for 1 hour and 15 minutes for Q/A session. In the parallel session, each participant made the presentation for maximum 15 minutes and 5 minutes for Q/A session. The technology used in the parallel session is zoom cloud meeting with 13 breakout rooms.

This conference becomes a dissemination forum for scientists working on theoretical and empirical research of environmental geography, transportation geography, geography education, social science and its application. This conference's mission is to become an annual international forum in the future, where civil society organization and representative research students, academics and researchers, scholars, scientists, teachers, and practitioners from all over the world could meet and exchange an idea to share and discuss about research. The aim of the second conference is to present and discuss the latest research that contributes to the new ontological, epistemological and axiological knowledge and



to a better understanding in the area as follows:(1) Environmental Geography; (2) Geography Information System and Remote Sensing; (3) Geomorphology; (4) Natural Disaster; (5) Economics; (6) History; (7) Education; (8) Humanities; (9) Social Sciences and (10) Global Science and Studies.

On behalf of the organizing committee, finally we gratefully acknowledge the support from the FKIP-University of Jember of this conference. We would also like to extend our thanks to all lovely participants who have been joining this unforgettable and valuable event.

Assoc. Prof. Dr. Sumardi, M.Hum



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The committees of the Third International Conference on Environmental Geography and Geography Education would like to express gratitude to all Committees for the volunteering support and contribution in the editing and reviewing process.

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Peer review statement

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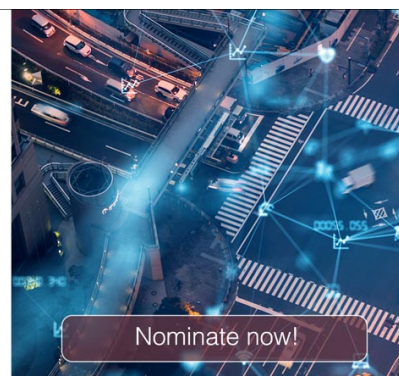
The Electrochemical Society

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a journal in the process of being launched in 2021

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Nomination submission begins: May 18, 2021



Peer review statement

All papers published in this volume of IOP Conference Series: Earth and Environmental Science have been peer reviewed through processes administered by the Editors. Reviews were conducted by expert referees to the professional and scientific standards expected of a proceedings journal published by IOP Publishing.

- **Type of peer review:** Double-blind review. The authors and the reviewers do not know each other. The managing editor send the papers to the reviewers by hiding the authors' name and their affiliation.
- **Describe criteria used by Reviewers when accepting/declining papers. Was there the opportunity to resubmit articles after revisions?** There were 13 aspects of assessment for accepting/declining papers, i.e. Clarity of abstract, Significance of research, Sufficiency state of the art, Contribution to the field (novelty), Research objective, Appropriateness of the research method, Relevance and clarity of drawings, graphs and tables, Experimental/evidential support, Quality of data or findings, Discussion and conclusions, Direction for future research and recommendations, Clarity of English, Writing style (according to EES format). There are no opportunities to resubmit papers after rejection. For the revised papers regarding to reviewer comments, they should resubmit their papers.
- **Conference submission management system:**
<https://easychair.org/conferences/?conf=icege2020>
- **Number of submissions received:** 219
- **Number of submissions sent for review:** 198
- **Number of submissions accepted:** 130
- **Acceptance Rate (Number of Submissions Accepted / Number of Submissions Received X 100):** 59,4 %
- **Average number of reviewers per paper:** 2
- **Total number of reviewers involved:** 50
- **Any additional info on review process (ie. plagiarism check system):** We used TURNITIN software to check the plagiarism issue during the review process.



- **Contact person for queries:**
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Volume 747

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3rd International Conference on Environmental Geography and Geography Education, 12 September 2020, East Java, Indonesia

Accepted papers received: 12 April 2021

Published online: 12 May 2021

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OPEN ACCESS Landslides susceptibility mapping based on geospatial data and geomorphic attributes (a case study: Pacet, Mojokerto, East Java) 012002

L Y Irawan, Sumarmi, S Bachri, D Panoto, I H Pradana and R Faizal

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N Wahyuningtyas, N Laila and F Andini

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A Z Ensiyawatin, Sumarmi and I K Astina

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A Masrukhin, R Anwar and H Sriyanto

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R Gunawan and H Rachmah

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W D Sulistyono, M N L Khakim, N Jauhari and A D Setyawan

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OPEN ACCESS The perspective of geography education students on the implementation of online learning during covid-19 pandemic 012012

This perspective focuses on the implementation of online learning during covid-19 pandemic and its impact on the learning process and the role of geography education.



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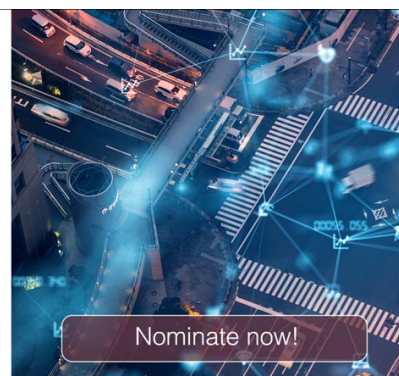
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Megalithic culture at the Suco Lor site Bondowoso

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Abstract. This research examines the megalithic culture at the Suco Lor Site, Bondowoso. The research objectives were: (i) to make an inventory of the number of archaeological remains of megalithic culture in the Suco Lor Site; (ii) analyzing the distribution, types, and functions of the archaeological remains of megalithic culture; (iii) reconstructing a picture of the religious, social and economic life of the supporting megalithic community. The research design used a historical research design with a cultural archeology approach. Primary data were collected using field survey techniques; Secondary data were collected using interview techniques and documentary techniques. The interpretation of the data was carried out hermeneutically using form analysis techniques, context analysis, comparisons, and ethnoarcheological analogies. The results of the study are as follows. First, the number of megalithic cultural archaeological remains at the Suco Lor Site is 241 with a typology consisting of 11 types. Second, there are two kinds of distribution patterns (group close together and single distribution). Third, the megalithic community in the Suco Lor Site has recognized religion which is oriented towards the cult of ancestors. Their social life has recognized the pattern of permanent housing in complex social life arrangements, which are also egalitarian in character. They are familiar with and master various technologies (pottery making, stone mining, and carving) and are thought to have been able to utilize metal technology. The subsistence pattern relies on agriculture as the main subsistence, as well as mixing food, trade and (presumably) livestock as supporting subsistence.

1. Introduction

Java Island is an archipelago that has various historical and prehistoric remains. One of these relics is a megalithic cultural heritage. The Java region itself has 209 sites spread over 40 districts [1]. East Java is an area where many prehistoric relics are found, one of the largest is the Besuki megalithic community. Areas that enter the Besuki community are the areas around the Iyang-Ijen Valley, namely the Bondowoso, Situbondo, Jember and Banyuwangi areas [2]. Among these areas, the most megalithic cultural heritage and varied forms is in Bondowoso. The total number of megalithic finds in Bondowoso Regency is 47 sites and the total number of megalithic finds in Bondowoso Regency is recorded as 1177. The archaeological remains of megalithic culture in Bondowoso Regency are spread across 15 sub-districts, namely Wringin, Curahdami, Pujer, Tlogosari, Tegalampel, Klabang, Sukosari, Sumber Wringin, Cerme, Tapen, Wonosari, Grujuk, Tamanan, Maesan, and Bondowoso City [3].

Based on geomorphology, sites in Bondowoso are grouped into three units. The first is located on the plains, which is 21 sites. The second is in the mountain slope area of 12 sites. The third is in hills totaling 14 sites [4]. Based on its characteristics, most of the archaeological remains of the Besuki megalithic community in Bondowoso (90%) are artifactual remains. The rest (10%) is featureal remains. Meanwhile, based on the conception of manufacture, the archaeological remains in Bondowoso are divided into four, namely (i) archaeological remains related to the worship of ancestral spirits or spirits; (ii) archaeological remains related to the realm of death or burial; (iii) archaeological remains associated with profane-astronomical activities; (iv) archaeological remains associated with profane-non astronomical activities [5].



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Carbon dating data through charcoal residue for several sites shows the age range of these sites is between 1230 ± 100 BP - 840 ± 200 BP (calibration results between 8-9 AD). The table below shows the results of carbon dating taken from charcoal residue from research activities in the Iyang-Ijen Valley area [6].

Table 1. The absolute Carbon Some Megalithic Sites in the Valley Iyang-Ijen

No.	Site	Sample for the Date	Context	Date	Calibration Zigma 1
1.	Dawuhan (Suco Lor)	Charcoal	Dolmen	1230 ± 100 BP	684 M - 887 AD
2.	Pakauman	Charcoal	Stone Astigmatism	840 ± 200 BP	992 M - 1306 AD 1363 M - 1385 AD

Suco Lor Site is one of the sites in Maesan Bondowoso District, located in a hilly area. The area of delineation at Suco Lor Site covers 195, 247 Ha with the northern boundary is a river, the eastern boundary is a bund and an imaginary line that intersects the Kerincing mountain, the southern boundary is rivers and roads [7]. The name of the Suco Lor site is taken from the name of the village because of the existence of megalithic remains in two hamlets, namely Suco Hamlet and Dawuhan Hamlet. The total number of megalithic archaeological remains at the Suco Lor Site is 241 with 11 types of megaliths, namely stone mortar, stone mortar, stone chamber, sarcophagus, dolmen grave, menhir, menhir type 2 (menhir statues), stone statues, monoliths (stone with holes, etched stone), stone chairs, stone altars and stone platforms type 2 and type 3 (stone kenong). Most of the stone chambers, monoliths (etched stones), stone altars and dolmen graves are still there, although they are not always found intact. However, most objects such as menhirs, type 2 menhirs (menhir statues), stone mortars, stone chairs, monoliths (stone among them were found in damaged condition). The distribution pattern is known to be 2 kinds, namely in close groups and single distribution. Researchers are interested in making the Suco Lor Site as the object of research, because (i) it is a large site of several sites in Bondowoso apart from Pakauman, Wringin and Tanah Wulan sites. Of the large sites, there are not many Suco Lor sites that have been researched; (ii) The Suco Lor site is a site that has clear delineation boundaries compared to other sites in Bondowoso; (iii) sites in Bondowoso where carbon dating has been carried out are at Pakauman Site and Suco Lor Site through charcoal residue in dolmen and rock cylindrical graves, carried out by P3G Bandung in 2001 [6]; (iv) the Suco Lor site is a site with complete cultural heritage objects including; stone mortar, stone mortar, stone chamber, sarcophagus, dolmen grave, menhir, menhir type 2 (menhir statues), stone statues, monoliths (stone with holes, stone with scratches), stone chairs, stone altar and stone foundation type 2 and type 3 (kenong stone).

2. Methods

Researchers used historical methods. The historical method is the process of critically examining and analyzing records and relics of the past, in order to reconstruct events or events from the human past that are authentic and can be trusted [8]. Based on the above understanding, the steps of historical research include four stages, namely, (i) heuristics (collection of sources), (ii) criticism, (iii) interpretation, (iv) historiography (writing).

The first step in collecting sources, researchers use primary sources and secondary sources. The primary sources in writing the thesis are buildings and objects and structures resulting from the megalithic culture in the Suco Lor Site. Meanwhile, secondary sources obtained are in the form of supporting books and data on the Suco Lor Site published by the Bondowoso Education and Culture Office in 2018, previous research on Bondowoso megalithic culture and interviews of caretakers and illegal diggers.

The second stage is that is external criticism carried out on written and oral sources. In this first stage, the writer selects or sorts research sources related to the megalithic culture in the Suco Lor Site in the form of books and journals by testing their quality. The internal criticism of the researchers

compared the sources that have been obtained such as books and journals about the megalithic culture of the Suco Lor Site with the results of interviews with Head of the Historical and Antiquities Section, Bondowoso Education and Culture Office, caretakers and illegal diggers.

The third step in this interpretation, the researcher determines the meaning that is interrelated with the facts that have been obtained. The researcher describes a number of facts that have been obtained from various sources relating to the research on the megalithic culture of the Suco Lor Site that has been obtained. Researchers relate historical facts to one another chronologically, in order to obtain a historical story that is really in accordance with the reality of events that have occurred.

The fourth step in the historiography stage carried out by the researcher was to compile and write a historical story about the Megalithic Culture at the Suco Lor Site, Maesan District, Bondowoso Regency. The process of activities carried out must use imagination in compiling the facts that have been obtained so that they will become historical stories.

3. Result and Discussion

3.1 Archaeological Remains of Megalithic Culture at Suco Lor

Site There are 241 archaeological remains of megalithic culture at the Suco Lor site with 11 types of megalithic typology, namely stone mortar, stone mortar, stone chamber, sarcophagus, dolmen grave, menhir, menhir type 2 (menhir statues), stone statues, monoliths (stone with holes, stone with scratches), stone chairs, stone altar and stone foundation type 2 and type 3 (kenong stone). The following is a picture of the 11 types of megaliths that have been described above.

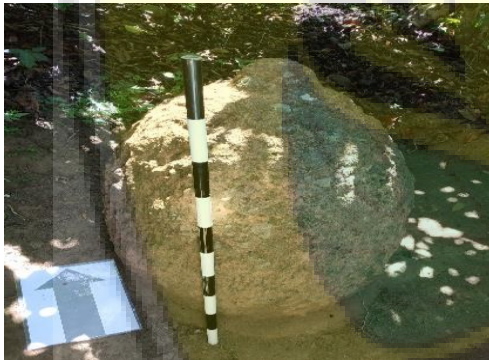


Figure 1. Stone foundation type 3 (stone kenong) at Suco Lor Site (Source: Field Survey Result Document)



Figure 2. Stone foundation type 2 at Suco Lor Site (Source: BPCB Results Document)



Figure 3. Stone mortar at the Lor Suco Site (Source: Field Survey Result Document)



Figure 4. Stone dimple the Lor Suco Site (Source: Field Survey Result Document)



Figure 5. Menhir type 2 (menhir statues) at Suco Lor Site (Source: BPCB Results Document)



Figure 6. Menhir stones at Suco Lor Site (Source: Field Survey Result Document)



Figure 7. Monolith (rock with a hole) at Suco Lor Site (Source: Field Survey Result Document)



Figure 8. Monolith (recently scratched) at Suco Lor Site (Source: Field Survey Result Document)



Figure 9. Stone chamber at Suco Lor Site (Source: Field Survey Result Document)



Figure 10. Sarcophagi at Suco Lor Site (Source: Field Survey Result Document)



Figure 11. Dolmen graves at Suco Lor Site (Source: Field Survey Result Document)



Figure 12. Stone statues at Suco Lor Site (Source: Field Survey Result Document)



Figure 13. Stone chairs at Suco Lor Site (Source: Field Survey Result Document)

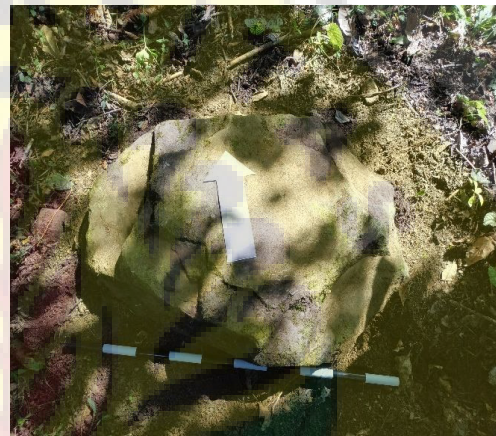


Figure 14. Stone altar at Suco Lor Site (Source: Field Survey Result Document)

3.2 Number, Distribution, Type, and Function of Archaeological Remains of Megalithic Culture at Suco Lor Site

3.2.1 Number and Distribution

The number of megalithic remains in the Suco Lor Site is 241 with a typology of 11 types in two hamlets, namely Suco Hamlet, which has 19 and Dawuhan Hamlet there are 222 units. All megaliths use andesite and breccia type stone materials and the direction towards the grave container is oriented to a higher direction, namely the Iyang-Argopuro Mountains and oriented towards East-West. Some of the megaliths are still in an in situ position and in relatively good / intact condition, while some are in disturbed condition. There are two kinds of megalith distribution patterns, first in close groups and secondly single distribution.

3.2.2 Type dan Function

The stone foundation type 3 (kenong stone) is a megalithic relic that is cylindrical in shape with a protrusion on it. The shape of the stone foundation type 3 (kenong stone) resembles the shape of a kenong, which is a Javanese musical instrument, so people call it kenong stone. Field observations show that the protrusion of the stone base type 3 (kenong stone) at the Suco Lor Site is in the form of boxes, rounds, oblongs and most of the lumps of the kenong rock are no longer intact. The top surface of the stone type 3 (kenong stone) at the Suco Lor Site has one protrusion, and the type 3 stone foundation (kenong stone) has two protrusions on the upper surface. The position of the stone foundation type 3 (kenong stone) is still there and is not there. The research results of Sulistyarto et al, 1991 at the Kodedek Site, Maesan District stated that the object of research was focused on fifteen

groups of type 3 stone foundation (kenong stone) with a circular formation and nine groups of type 3 stone foundation (kenong stone) with square or longitudinal formations. cage. Looking at the two studies, it can be concluded that the function of the stone foundation type 3 (kenong stone) is as a base for house buildings supported by the findings of pottery fragments and charcoal fragments [5]. The stone platform type 2 is a square rock. Similar to the kenong stone, the stone foundation type 2 also functions as a building base. The finding data from the observation result of the stone foundation type 3 (kenong stone) were 143 and the number of the stone type 2 foundation was 2. The location is in the yard of the caretaker's house, rice fields and coffee plantations.

A stone dimple is a boulder with a hole at the top of its surface with only one hole that is carved using a parallel hole technique following the edge wall, resulting in a long oval-shaped hole like a trough. Meanwhile, a stone mortar is a boulder with a hole in it with one or more holes in a circle on its relatively flat upper surface. The surface of the mortar stone hole is usually round. The function of mortar and mortar is first, allegedly as a means used in ceremonies related to ancestral spirits, which are expected to provide fertility to the land for farming and provide welfare to livestock [9]. The second interpretation, as a place to pound rice or a kind of grain so that the skin exfoliates, and can also be used to smooth something [10]. Data findings from observations of stone mortar were 6 and the number of stone mortars was 17. The position is still in there and is not in there. The location is in the yard of the caretaker's house, rice fields and coffee plantations.

Dolmen graves are tombs that have a square or rectangular structure made of several rocks (usually four, one for each side) supporting the capstone. The floor can also be provided in the form of stone slabs [11]. Overall the grave of a dolmen is similar to that of a dolmen. Although the graves of the dolmen and dolmen are almost the same, they function differently. The dolmen grave functions as a burial container as evidenced by the excavation of Williems in 1938 at the Pakauman Site [5]. The finding data from the observation result of dolmen graves were 41 pieces. The place is still in there and is not in there. The location is in rice fields and coffee plantations.

Monolith (stone with scratches) is a large boulder whose surface is carved by human hands which is thought to have a special purpose for the maker or the community [10]. It was further explained that the etched stone has a function as a medium of worship for ancestors [6]. Another possibility is that the shape of the straight lines carved on the monolith (etched stone) has a function related to agricultural activities, namely as a tool to determine the planting season [10]. Data findings from observations of monoliths (scratched stones) amounted to 2 units. The place is still there. The location is in a coffee plantation. Monolith (stone with a hole) is a large, rectangular stone boulder with more than one holes on its surface. An interpretation which states that the function of monoliths (rock with holes) is a medium for calculating the time associated with the growing season [5]. There are 3 data findings from the observation of monoliths of rock monoliths at the Suco Lor Site. The first monolith (hollow stone) is located in the rice fields, there are 2 units and in the coffee plantation area there is 1 units.

A stone altar is a single stone slab of various shapes with a flat surface that is placed on the ground near the stone of worship or the object of worship. The function of the stone altar is divided into two, namely: (i) as a seat and (ii) as a place to place offerings in connection with ancestral worship rites [12]. Data findings from the observation of the stone altar at the Suco Lor Site found 1 fruit. The stone altar is adjacent to the dolmen's grave on the northwest and southwest. The place is still there, and it is located in a coffee plantation. According to researchers, the function of a stone altar is a place to place offerings because of its location near the dolmen's grave.

Stone chamber are megaliths for burial containers in the form of chambers or rooms that are deliberately made on mountain cliffs with a cover using stone slabs. Data findings from observations of stone chamber graves at the Suco Lor Site found 1 stone chamber tomb. The stone chamber grave at the Suco Lor Site includes a stone cubicle type with floor and walls of solid soil, and uses boulders as a cover and functions as a burial container. The stone chamber graves are oriented to a higher place, namely Mount Iyang / Argopuro. The position is still in there and when making observations, the contents of the graves and bones in the stone chamber tomb are no longer there.

Stone chairs are megaliths in the form of boulders that are worked to resemble the shape of a chair, with a base and a backrest. Stone chairs are often also known as "stone thrones" and "pelinggih stone". The function of the stone chair is divided into two interpretations, first as a seat for important figures of his time such as tribal chiefs, as well as for the spirits of the ancestors [5]. The second interpretation, as a place of ceremony related to the worship of ancestral spirits [9]. Data findings from observations of stone chairs at the Suco Lor Site found a stone chair. The place is still there, and it is located in a mountain cliff. According to researchers, the function of the stone chair was as a seat for important figures of its time.

Menhir is a stone that is placed upright that has been or has not been worked like a pillar or monument and is placed intentionally in a place for the purpose of being a memorial stone related to the worship of ancestral spirits [9]. The function of menhirs can be divided into two, namely, the function of menhirs when humans live in the world and the functions of menhirs after death. The data from the observation of menhirs at the Suco Lor Site found 20 menhirs. Most of the menhirs are made of breccia and andesite types of rock. The position of the menhirs is still there and is no longer there. The location is in the yard of the caretaker's house, rice fields and coffee plantations. Meanwhile, menhir type 2 (statues of menhirs) is a designation for the further development of menhirs that lead to the form of statues. This megalithic shape is characterized by upright stones formed with simple characters like human figures but with rough or primitive depictions, and not proportional. Usually menhir statues are characterized by the presence of a head and body but not equipped with legs, both sitting and standing. Often highlighted are the genitals [13]. Data findings from observations of stone statues at the Suco Lor Site found 1 stone and 1 Polynesian type of menhirs.

The sarcophagus is a megalith made from two blocks of stone carved into a half-cylindrical shape which functions as a container and a lid. In the container and the lid, the inside is made of a concave cavity [5]. The function of the sarcophagus is as a burial container for storing bodies for both primary and secondary burial. Data on the findings of observations at the Suco Lor Site, all sarcophagi do not have a door, so it is strongly suspected that it is only for primary burial. The direction towards the sarcophagus is oriented towards a higher place, namely Mount Iyang / Argopuro. Data from observations at the Suco Lor Site found 2 sarcophagi.

Stone statues are carvings in the form of humans and animals, both dynamic and static styles [5]. Statues are characterized by several types, namely, the first is a form of human sculpture with complete anatomy from head to toe. Second, animal-shaped statues made in connection with ancestor worship, which are usually buffalo, crocodile, elephant, tiger and monkey. Third, the head statues of both humans and animals which are related to belief in ancestral spirits.

3.3 Conception of Megalithic Community Beliefs in the Suco Lor Site

In its immortality, the spirits / spirits of the ancestors are believed to be able to influence human life and even be able to determine human life itself. So that the harmony between living humans and their ancestors must be maintained by being "glorified", "exalted", "cultured", and "satisfied" through various rituals. The conceptions of religion are interrelated with one another, especially those that seem relevant in the context of this study, as well as the influence or involvement in the birth of the megalithic tradition. First, the conception of religion related to death does not bring about a fundamental change in one's dignity. In this case a person while living in a world with low dignity will still have low dignity after the person concerned dies. On the other hand, if a person lives in the world with high dignity, his dignity will remain high after he dies. Archaeological remains of megalithic culture whose function is related to the worship of ancestral spirits such as menhirs, stone statues, etched stones and stone chairs made by the megalithic community at the Suco Lor Site because they are motivated by religious conception.

The second, the religious conception related to a person's spirit does not disappear when death arrives, but instead goes to another place or world (the world of ancestral spirits) and they remain eternally alive. It is believed that the spirits of ancestors can influence human life such as plant fertility, crop yields, etc., and are even able to determine human life itself. In the conception of

religion, it attracts special involvement related to burial, such as the inclusion of grave provisions, orientation towards the grave container, and the tradition of choosing a burial site. Included in the grave provisions found at the Suco Lor Site were beads shaped like blue duck eggs, flat money, thin gold such as paper, keris, iron cow bells, pottery fragments and snake skeletons.

Punkri Burwadih, Chano (Rola), and Birbir confirm that the megaliths are positioned by aligning them not only with the hills on the horizon but also towards the cardinal directions and towards the rising and setting sun which is important by studying the movement of the sun [14]. Related to the direction toward the grave container. Dolmen graves, sarcophagi, and stone-chamber graves at the Suco Lor Site in the direction facing the Iyang / Argopuro Mountains and oriented towards East-West. The high place of the top of the mountain is where the world of the ancestors is located, which is the mainstream of the megalithic community, which is commonly called *chtonis*. There is also an East-West orientation, that is, the direction towards the corpse is oriented with the face to the west. The East-West orientation toward the corpse and the burial container may be related to the death rites in the sun-worshipping community. East-West means a symbol, and not just the direction of the wind, but a symbol of the alignment of human life's journey with the sun's rotation from east to west. East is a symbol of birth or the beginning of life, while the west is a symbol of death or the end of life. The choice of burial location is generally always placed in a high place such as a mountain peak, hilltop, mountain peak or a place higher than the surrounding places so that the spirits / spirits who die will not experience many obstacles on their way to the place of the spirit world / ancestral spirits. are on. The last conception of religion is that certain animals can provide help, strength, and protection to humans from harm. In the tradition of worshiping certain animals (red crocodiles, turtles, and roosters) can be found in the people of East Sumba. Whereas for the Nias people, the animal worship tradition called *lasara* in the form of hornbills and roosters and carvings of dogs and poultry can be found at the Bondowoso Kretek Site [5].



Figure 15 Visualization of Aerial Photographs of Suco Lor and Mount Iyang / Argopuro Sites

3.4 Social, Economic and Cultural Life of the Megalithic Community at the Suco Lor Site

3.4.1 Social Life of the Megalithic Community in the Suco Lor Site

Their social life is confirmed to have recognized the pattern of permanent housing in complex social life, namely differentiation and stratification. They build a permanent residence (house) to live, through evidence found against kenong stones at the Suco Lor Site. The megalithic community at the Suco Lor Site is also familiar with the technology of making pottery, has a high ability in rock mining technology, carving techniques, and in utilizing metal technology. The fact that they are familiar with the technology of making pottery is evident in the finding of a large number of pottery fragments at the Suco Lor Site. Meanwhile, the evidence that they have the ability in rock mining technology is revealed through data findings in the form of the use of breccia stone as a material for megaliths. Evidence regarding the ability of the megalithic community at the Suco Lor Site in carving techniques

was revealed through data findings in the form of objects, buildings and megalithic structures. In producing megalith forms, it requires a sharp and strong chisel, if you rely on lytic technology, you can be sure that it will not be sufficient, so you have to use metal-edged chisels and that means they are familiar with and able to take advantage of metal technology. Evidence related to metal technology is the remains of the grave provisions, namely the keris.

The social life of the megalithic community in the Suco Lor Site has a complex structure characterized by the development of social differentiation and social stratification. As is evident from the results of ethnoarcheological research in Nias (North Sumatra), in West Sumba (East Nusa Tenggara) and in Taroja (South Sulawesi), in the form of social classifications based on expertise. This expertise is the class of leaders and regulators of ancestral worship rites, the group of leaders and organizers of the procession of pulling stones, the group of making megaliths, the class of making grave items, and others [5]. Social stratification is levels based on human social status. Evidence of the development of social stratification in the life of the megalithic community in the Suco Lor Site is the finding of data in the form of grave containers in the form of dolmen, sarcophagi, and stone-chamber graves. The results of the ethnoarcheological research of Haris Sukendar, 1994/1995 in East Nusa Tenggara, that people who can be buried using a grave container are only done by certain people because the implementation of the burial system requires quite heavy ritual preparation and requirements [15]. So that the burial system with a burial container is only intended for prominent people, respected people or figures in society (bigman). The shape of the grave container is further differentiated based on the size and festivity of the decorative pattern found in the grave container. For prominent people, respected people or figures in society are still differentiated based on high and low social status. The higher the social status, the bigger the size and the greater the decorative pattern of the grave container.

3.4.2 Economic Life of the Megalithic Community in the Suco Lor Site

The economic life of the megalithic community in the Suco Lor Site as a whole shows a relatively complex economic life. The pattern of agricultural subsistence is reflected in the presence of megaliths in the form of stone mortars and stone mortars. Although the function of stone mortar and stone mortar is still a matter of debate among experts, there is evidence of a hole in the megalith functionally as a means of pounding grain to peel off its skin, and can also be used to smooth something [10]. There are also monoliths of perforated stone and etched stone whose specific function is as a means of relating to activities in the agricultural sector, namely as a tool for calculating the arrival of the planting period [9]. The subsistence pattern of gathering on food is evident through the findings of data in the form of rock mortars with shallow and small holes found at the Suco Lor Site. The function of large and deep stone mortars is different from stone mortars with small and shallow holes. The function of a small stone mortar is to pound leaves [16].

The pattern of trade subsidence is evident through the findings of data in the form of beads which the researcher obtained when conducting interviews with illegal diggers who are residents of the Suco Lor Site. The find of beads in a dolmen grave is shaped like a blue duck egg. At that time, beads were one of the most important commercial commodities. The subsistence pattern of farming in the form of raising domestic animals is proven through the findings of data in the form of iron cow grave provisions in a dolmen grave. Apart from this evidence, livestock subsidence is almost always present together with agriculture subsidence. The two subsistence patterns, livestock and agriculture are characteristics of community life who are familiar with permanent housing patterns [15]. The economic condition of the megalithic community in the Suco Lor Site can be ascertained in an adequate condition. Because they are able to bury their citizens in grave containers such as dolmen's graves, sarcophagi and stone chamber, and burials with grave containers are not cheap.

3.4.3 Cultural Life of the Megalithic Community in the Suco Lor Site

The cultural life of the megalithic community at the Suco Lor Site can be ascertained in an egalitarian style, based on the spirit of unity, togetherness, social solidarity, social solidarity, and mutual assistance, which are strongly bound by customs and religion. Likewise, cutting down forests, burning

bushes, sowing seeds, reaping the produce, making pottery, exchanging activities, hunting and catching fish are carried out by mutual cooperation [9]. The egalitarian pattern of the megalithic cultural life at the Suco Lor Site is evident from the data found in the form of archaeological remains that are still strong. Only a person or group with special expertise can make grave containers such as dolmen graves, sarcophagi, and stone-chamber tombs. To extract stone raw materials for making grave containers from the mining site to the burial site and to the stone-making / working place requires and involves a large number of people. Likewise for the manufacture of etched stones, monoliths of stone with holes, kenong stone, stone altar, stone mortar, stone mortar, menhirs, menhir statues, stone statues, stone pedestals and stone chairs [15].

4. Conclusions

The number of megalithic remains in the Suco Lor Site is 241 with a typology of 11 types in two hamlets, namely Suco Hamlet, which has 19 and Dawuhan Hamlet there are 222 units. In the conception of religion, it attracts special involvement related to burial, such as the inclusion of grave provisions, orientation towards the grave container, and the tradition of choosing a burial site. They build a permanent residence to live, through evidence found against kenong at the Suco Lor Site. The megalithic community at the Suco Lor Site has also been familiar with earthenware making technology, stone mining technology, carving techniques, and utilizing metal technology. The economic condition of the megalithic community in the Suco Lor Site can be ascertained in an adequate condition. Because they are able to bury their citizens in grave containers such as dolmen's graves, sarcophagi and stone-chamber tombs and they are egalitarian in character. The pattern of agricultural subsistence is reflected in the presence of megaliths in the form of stone mortar, stone mortar, monolith of stone with holes and stone with scratches. The subsistence pattern of farming in the form of raising domestic animals is proven through the findings of data in the form of iron cow grave provisions in a dolmen grave. The pattern of trade subsistence is evident through the findings of data in the form of beads which the researcher obtained when conducting interviews with illegal diggers who are residents of the Suco Lor Site.

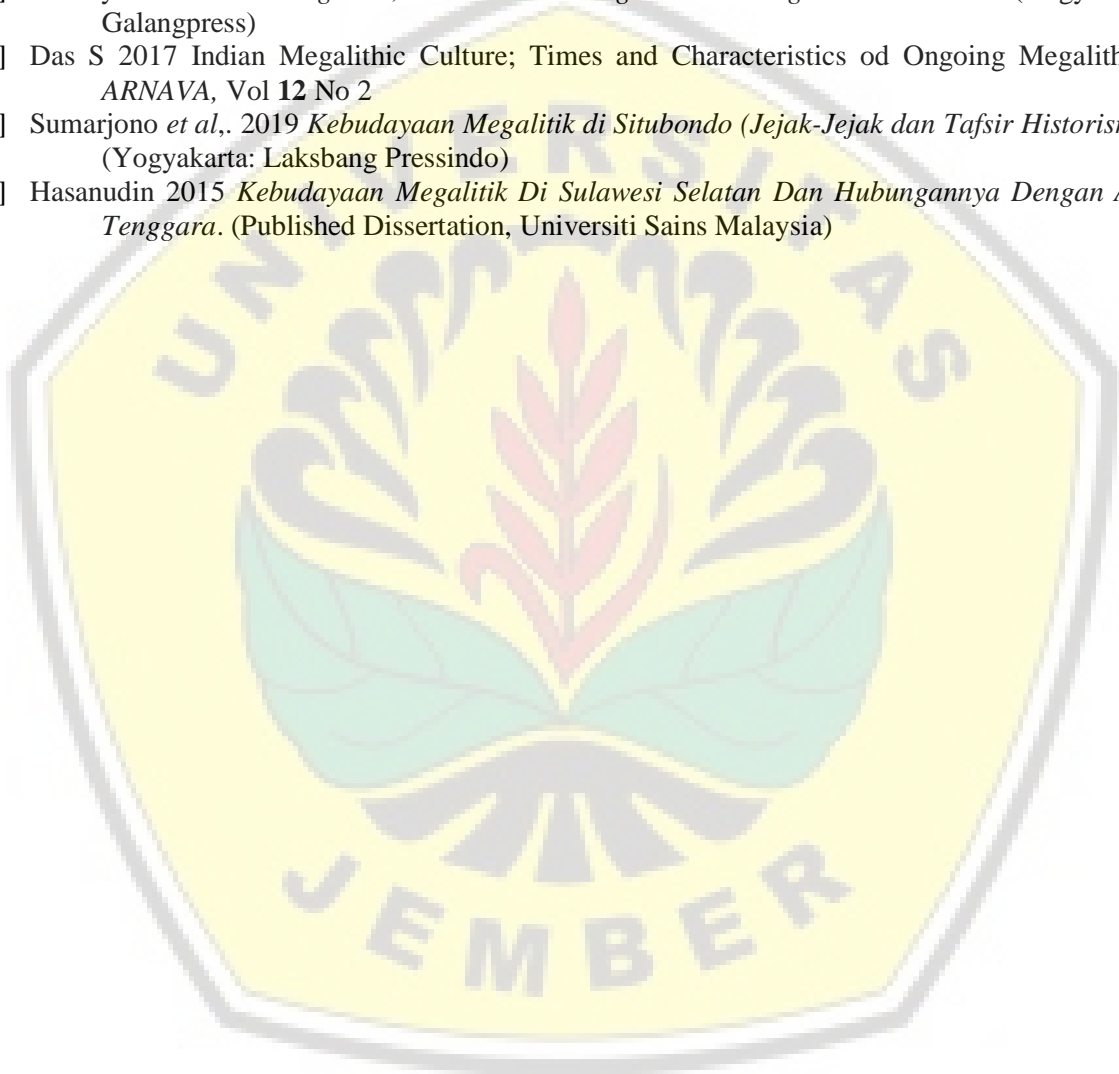
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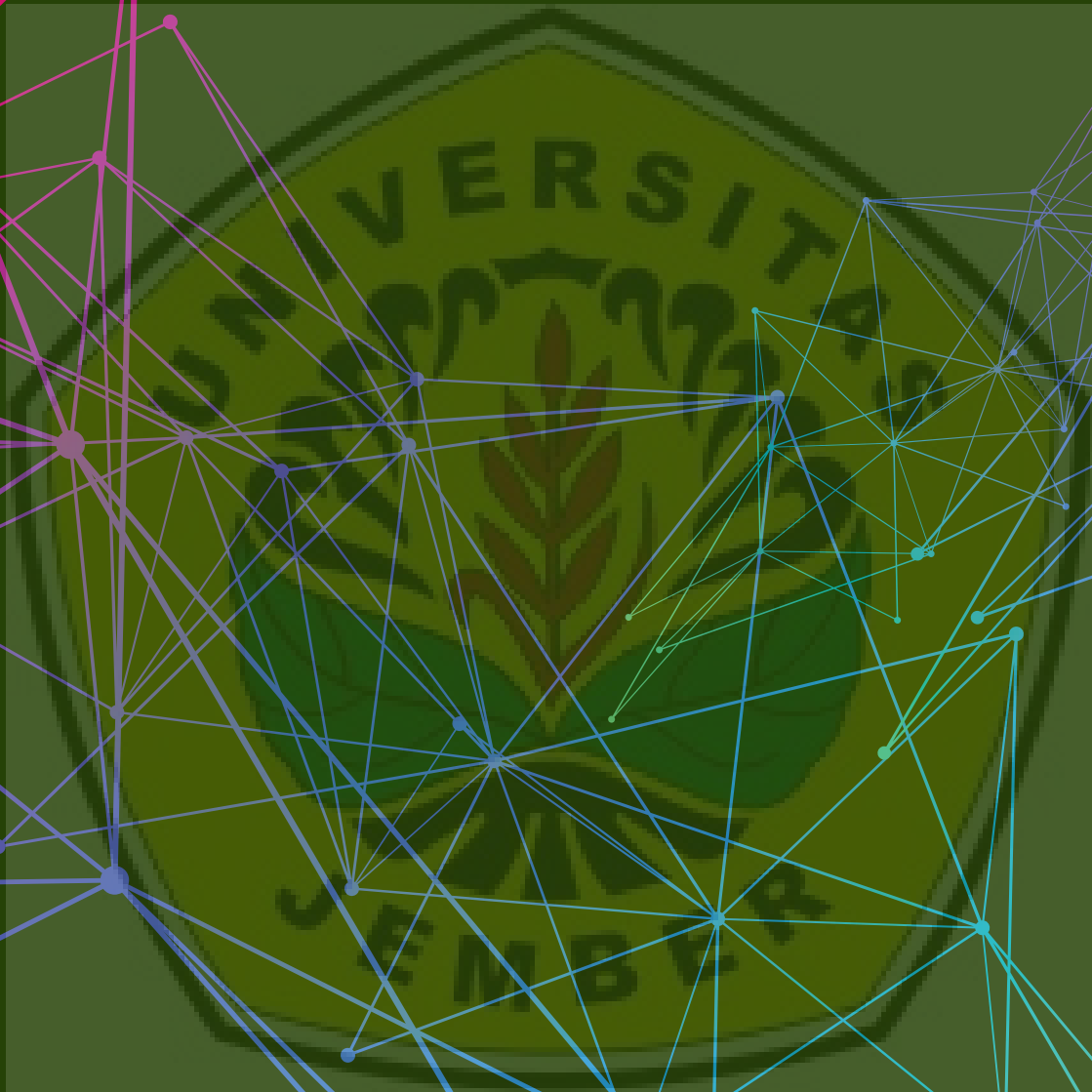
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