



**University of Jember**  
Faculty of Teacher Training and Education



UNIVERSITAS  
JEMBER

# PROCEEDINGS

## 3rd ICEGE 2020

The Third International Conference on Environmental Geography  
and Geography Education

September 12<sup>th</sup> - 13<sup>th</sup>, 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 3<sup>rd</sup> 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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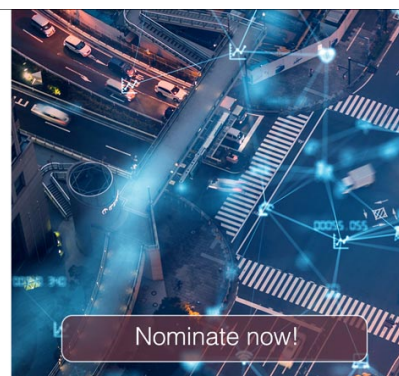
### The Electrochemical Society

Advancing solid state & electrochemical science & technology

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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:**  
Assoc. Prof. Sumardi, M.Hum.  
Universitas Jember, Indonesia  
sumardi.fkip@unej.ac.id





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2021

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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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### Papers

**OPEN ACCESS** Coastal Community Resilience Planning Toward Disaster: A Case Study on Coastal Area in Malang Regency, East Java, Indonesia 012001

Coastal Community Resilience Planning Toward Disaster: A Case Study on Coastal Area in Malang Regency, East Java, Indonesia

L Y Irawan, Sumarmi, S Bachri, M M Rosbella Devy, R Faizal and W E Prasetyo

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

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

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**OPEN ACCESS** Strategic Value of Marble Mine Management for Community Economic Improvement and Challenges Keeping Sustainable Environmental Support in Tulungagung Regency 012003

Strategic Value of Marble Mine Management for Community Economic Improvement and Challenges Keeping Sustainable Environmental Support in Tulungagung Regency

Sumarmi and N Wahyuningtyas

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Sub-watershed prioritization inferred from geomorphometric and landuse/landcover datasets in Sari Watershed, Sumbawa Island, Indonesia

O Setiawan and R Nandini

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Forming spatial thinking skills of social studies students in phenomenon analysis geosphere through the Geographic Information System (GIS)

N Wahyuningtyas, N Laila and F Andini

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**OPEN ACCESS** Ecotourism Development Strategies of Pulau Merah Beach, Banyuwangi, Indonesia 012006

Ecotourism Development Strategies of Pulau Merah Beach, Banyuwangi, Indonesia

Sumarmi, S Bachri, L Y Irawan, A W Sholeha and M Aliman

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**OPEN ACCESS** Development of Supplementary Contextual Teaching Materials Based on Ecotourism and Natural Resource Management 012007

Development of Supplementary Contextual Teaching Materials Based on Ecotourism and Natural Resource Management

A Z Ensiyawati, Sumarmi and I K Astina

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The sustainability of pancasila values on improving the human resources of Indonesian students in Indonesian Saudi Arabian schools

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Pancasila and Saving Lifestyle: a Case Study in Bina Nusantara University Jakarta Students

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Geographical and Historical Potential of Merjosari Water Site, Malang City and Its Utilization as Learning Resources

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Empowerment of Housewives in Antirogo Village, District of Jember Through Training on Production of Cassava Rengginang

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The Effect of Online Learning and Parental Guidance Towards the Result of XI Social Students' Learning on Geography Course at SMAN 5 Jember

































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Rolla Batik Home Industry at the Patrang District Jember Regency in 2010-2018

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M A R Palupi, Sumarjono, K Swastika, M. Na'im and A R Pratama

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Development of e-modules based on science technology society integrated life based learning in history learning

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A Hayati, M Faqih, Y Hartono and Soebijantoro

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N Umamah, Sumardi, Marjono, R A Surya and E Mulfida

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Identifying environmental issues on the prehistoric societies in history learning

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M Lianti, B Soepeno, R P N Puji and Sugiyanto

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## Megalithic Culture at the Maskuning Kulon Site Pujer Bondowoso

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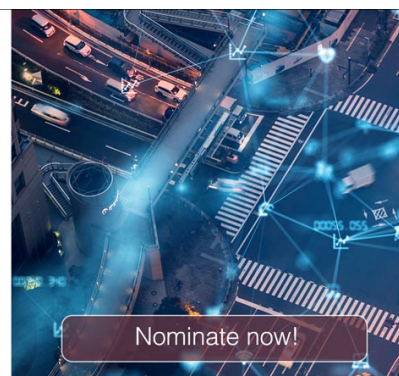
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# Megalithic Culture at the Maskuning Kulon Site Pujer Bondowoso

L Wijayanti<sup>1\*</sup>, K Swastika<sup>1</sup>, Sumarjono<sup>1</sup>, M Na'im<sup>1</sup> and A R Pratama<sup>1</sup>

<sup>1</sup>History Education, University of Jember, Kalimantan Street 37 Jember, Indonesia

\*lianawijayanti12345@gmail.com

**Abstract.** This study examines the megalithic culture at the MaskuningKulon Site, Bondowoso. This site is one of the megalithic sites located in MaskuningKulon Village, Pujer District, Bondowoso Regency. The research objectives were: (i) to make an inventory of the number of archaeological remains of megalithic culture at the Maskuning Kulon Site; (ii) analyzing the distribution, types and functions of the archaeological remains of the megalithic culture; (iii) reconstructing a picture of the religious life/belief system, social, and economy of the supporting communities. This research design uses historical research design with 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 ethnoarchaeological analogies. The results of the study are as follows. First, the total number of megalithic cultural archaeological remains found at the MaskuningKulon Site is 58. Second, there are two kinds of distribution patterns (group close together and single distribution). Typology consists of 1 type. Third, the megalithic community at the Maskuning Kulon site has recognized religion which is oriented towards ancestor worship. Their social life is confirmed to have recognized the pattern of permanent housing in complex social life arrangements: differentiated and stratified, as well as egalitarian in character. They already know and master the technique of making pottery. The subsistence pattern relies on agriculture as the main subsistence, as well as gathering food, trade and it is suspected that agriculture is the supporting subsistence.

## 1. Introduction

Important megalithic communities in Java, especially in East Java, are megalithic communities that are believed to be centered in the Bondowoso (East Java) area with a distribution that reaches the surrounding areas, including the areas of Jember, Situbondo, and Banyuwangi. The distribution in the Bondowoso area is in Jatisari, Pakisan, Jebung Lor, Jebung Kidul, Dawuhan, Tanah Wulan, Sumberpandan, Pakauman, Pedaringan, Tasnan, and Kodedek. In the Jember area, the findings of the kenong stone were centered in the Arjasa area, more precisely at the Dopleng, Kendal, Kebonjurang, and Krajan sites. Most of the megalithic objects are used as a base for a stilt house [1].

According to research data, the number of sites that have been found in Bondowoso is 47 sites in 15 districts. The number of megaliths found in Bondowoso as of November 2018 was 1177, consisting of various types. Prasetyo (2000) groups these sites into 3 units. First, the megalithic sites located in the plains (21 sites). Second, megalith sites are located on the slopes of volcanoes (12 sites). Third, sites that are located in the hills (14 sites) [2].

The development of megalithic culture in Bondowoso occurred around the 8-9 AD until the 14th AD. This is known from the results of carbon dating through charcoal residues on several megalithic sites in the Pakauman, Dawuhan, and Kamal regions can be seen in the table below [3].



**Table 1.** The absolute date of the Megalithic Culture of Jember and Bondowoso

No	Site	Sample for the Date	Context	Date	Zigma Calibration I
1.	Kamal	Charcoal	Dolmen	580±100 BP	1297 AD -1374 AD 1376 AD - 1422 AD
2.	Dawuhan	Charcoal	Dolmen	1230±100 BP	684 AD -887 AD
3.	Pakauman	Charcoal	Stone Astigmatism	840±200 BP	992 AD - 1306 AD 1363 AD - 1385 AD

Dawuhan and Pekauman are part of Bondowoso and Kamal is part of Jember. From the table above, it can be concluded that the archaeological remains of megalithic culture in Bondowoso are older than the archaeological remains in Jember. This can be ascertained that the Bondowoso megalithic community first lived and then spread to the Jember area [3].

Bondowoso is likened to a "bowl" this is due to the condition of the Bondowoso area which is surrounded by mountains and mountains which have low plains around them. So Bondowoso is considered a storehouse of megalithic culture [4].

In Bondowoso, there are sites in the lowlands, one of which is the Maskuning Kulon Site. This site is located in Maskuning Kulon Village, Pujer District, Bondowoso Regency. This site is a site that is still untouched by the hands of archaeological researchers. Because this site is in existence, not many people know. Besides, the information about the existence of megalithic cultural relics in MaskuningKulon Village is very low. Therefore, the researcher wanted to examine the megalithic culture in the MaskuningKulon village. The selection of the research site was carried out based on the recommendation of the head of the historical section of Bondowoso, namely Mr. HeryKusdaryanto as the head of the historical and archaeological section of the Bondowoso Regency Education and Culture Office. Empirically this site is interesting because this site is different from other sites in general. This site is located in the lowlands of Pujer District, Bondowoso Regency, which is about 12 km from Bondowoso Square to the southeast. The center of government is in Kejayan Village and works by the Iyang-Argopuro Mountains.

The archaeological remains at this site are quite interesting. The distribution and variation of this site are different from other sites in the Bondowoso area, where this site has a very unique variety of archaeological remains that are very similar to the dolmen. This tomb has a form of a square or rectangular box-like structure made of several orthostats (usually four, one for each side) supporting a capstone. The floor may be also provided in a form of stone slabs. The orthostats and the capstones can be shaped either of undressed rough blocks or partly dressed flattish stones (Gururaja Rao 1972, 239) [5]

Based on the background of the problems above, the problem formulations in this study are: (i) to make an inventory of the number of archaeological remains of megalithic culture at the MaskuningKulon Site, (ii) analyzing the distribution patterns, types, and functions of the archaeological remains; (iii) description of the belief system, social and economy of the megalithic community in the MaskuningKulon Site.

## 2. Methods

The author of this study uses historical research methods. The historical method is the process of critically examining and analyzing records and relics of the past to reconstruct events or events from the human past that are authentic and can be trusted [6]. The historical method steps include four stages. A heuristic is the first step taken by researchers to find and collect historical sources. Collection of sources obtained through field surveys, literature study, and interviews. The sources found were archaeological remains found at the

Maskuning Kulon Site. And written sources are in the form of theses, dissertations, and scientific articles related to megalithic culture, especially the Bondowoso area. Researchers divide historical sources into two types, namely primary sources and secondary sources.

The second step is criticism. Criticism is assessing, testing, or selecting the correct source or trace in the sense that it is needed, truly original (authentic), and contain relevant information on the subject or historical story to be compiled. In this case, criticism is carried out to determine the validity of the authenticity of the source which is carried out through external criticism and the validity of the source which is traced through internal criticism.

The third step is interpretation. At the interpretation stage, the researcher describes (analyzes) the data obtained and connects the criticized data to obtain historical facts [7]. Researchers relate historical facts to one another chronologically, to obtain a historical story that truly corresponds to the reality of events that have occurred.

The final step is historiography. Historiography is a way of writing, presenting, or reporting the results of historical research that has been carried out. In writing history, the chronological aspect is very important, namely the "straight line". Especially in the case of cultural changes, it will be sorted chronologically [7]. The techniques used to interpret the source are (i) formal analysis, (ii) contextual analysis, (iii) comparison, and (iv) ethnoarchaeological analogy.

### 3. Result and Discussion

#### 3.1 Characteristics of the Archaeological Heritage of Megalithic Culture in the Maskuning Kulon Site

Based on the results of field data collection, the researcher found findings in the form of archaeological characteristics of the archaeological remains found at the MaskuningKulon Site, and data findings in the form of dolmen which were recorded as archaeological relics of the megalithic culture of the MaskuningKulon Site.



**Figure 1.** Dolmen at the Pujer Hamlet, Maskuning Kulon Site (Source: Field Survey Results Document)



**Figure 2.** Dolmen at the Krasak Hamlet, Maskuning Kulon site (Source: Field Survey Results Document)

These residences are spread out into two hamlets in MaskuningKulon Village. The form of the remains is in the form of large, unworked boulders made of river stones, has a roof as a table and legs as a support. The shape of the roof varies, such as round, oval, square, and the number of feet on this remains varies from 4 to 6 or more. The condition of the archaeological remains of the megalithic culture at the

Maskuning Kulon Site is well preserved and maintained. The following is an image of archaeological remains found at the Maskuning Kulon Site which spreads into two hamlets.

### *3.2. Number, Distribution, Type, and Functions of Megalithic Cultural Archaeological Remnants in the Maskuning Kulon Site*

#### *3.2.1 Number and Distribution of Megalithic Cultural Archaeological Remnants in the Maskuning Kulon Site*

The archaeological remains of megalithic culture found at the Maskuning Kulon Site spread over two hamlets. First, Pujer Hamlet has 7 megaliths of archaeological remains. The orientation of the direction towards the archaeological remains in Pujer Hamlet is oriented towards the Iyang mountains. There are 2 types of distribution patterns, a group close together, and a single distribution. All megaliths used are andesite rock materials, most of them are in good condition and well maintained. Second, Krasak Hamlet has 51 megaliths of archaeological remains. The orientation towards the archaeological remains in Krasak Hamlet is oriented towards the Iyang mountains. There are 2 types of distribution patterns, a group close together, and a single distribution. The rock type uses andesite rock material, most of the conditions are still good and well maintained.

Based on what has been stated above, the number of archaeological remains of megalithic culture in the Maskuning Kulon Site is 58 megaliths and only has one type of megalith in two hamlets, namely Pujer Hamlet there are 7 megaliths and Krasak Hamlet there are 51 megaliths. The orientation towards the archaeological remains is oriented towards the Iyang Mountains. Has 2 kinds of distribution patterns, namely the adjacent group distribution and single distribution.

#### *3.2.2 Types and Functions of the Archaeological Relics of Megalithic Culture in the Maskuning Kulon Site*

Archaeological remains of megalithic culture have distinctive names or local names. These distinctive names are used as references to archaeological remains by local people because of its local nature. It could be that the archaeological remains of megalithic culture have the same shape but at different sites, which may have different names. It could also be that the name is used in other archaeological remains of megalithic culture [8].

There are many versions for the mention of the archaeological heritage of the community culture in Maskuning Kulon Village. Some call these relics as *betohkobur*. The term is used by the people in the village to describe an archaeological legacy of megalithic culture in the form of a large boulder supported by several stones under it. Where *betohkobur* is taken from their daily language, the Madurese language, which means *betoh* is stone and *kobur* is grave. As the name implies, the stone functions as a burial place.

The unique (local) name given by the community around the site is a label given by them. It can be right or wrong. As previously explained, these names could be different places, because the name is not necessarily able to represent the type of archaeological remains of megalithic culture. Because each type of megalith has different meanings and functions.

After going through the analysis of the typology of the archaeological remains of megalithic culture at the Maskuning Kulon Site, then comparing them with the archaeological remains of other megalithic cultures in Indonesia. The typology of the archaeological remains of the megalithic culture at the Maskuning Kulon Site is identified as the Dolmen Grave. The dolmen's grave has a very similar shape to the dolmen, but they both have different functions, namely as a burial container. Following with the function that is believed by the local community that the legacy is a grave container. Based on the results of interviews with the maintenance of the Maskuning Kulon Site, in 1990 there were illegal excavations that had been carried out on the cultural archaeological remains of the Maskuning Kulon Site and the discovery of bones, skulls, and beads. Its function as a burial container has been proven in the excavation

carried out by Willems in 1938 at the Pakauman Site where human bones and remains were found in the form of broken pots, animal teeth, and a shard of Chinese ceramics from the IX AD [9].

### 3.3 Conception of Megalithic Community Beliefs in the Maskuning Kulon Site

Based on the findings of field data, it shows that there is a religious system of human life in the megalithic community of the Maskuning Kulon site, which is as follows:

1. Burial using a grave container at the MaskuningKulon Site
2. The direction towards the archaeological remains of megalithic culture at the Maskuning Kulon Site overlooks the Iyang Mountains.
3. Inclusion of grave provisions in the form of certain objects (beads) at the Maskuning Kulon site.

One of the most visible aspects of megalithic society is the attitude towards the realm of life after death. Berdasarkan The evidence that has been collected can be ascertained that the religious system of the megalithic community in the Maskuning Kulon Site is no different from the belief system of other megalithic communities. His belief is the belief in a relationship between humans who are still alive and humans who have died. Namely, culturing ancestral spirits as an intermediary to worship the Almighty Creator [10].

Belief in ancestral spirits creates various religious concepts, where these religious concepts are interrelated with one another. The religious concept related to research at the Maskuning Kulon Site can be explained as follows:

The first religious concept is that death is seen as not bringing about an essential change in one's position, condition, or character. A person with low dignity will still have a low position in the hereafter. Likewise, someone who has high dignity during his lifetime will still have a high position in the hereafter.

Usually, only prominent people or those who have served in society will reach a special place in the afterlife. However, there are several ways to get a high degree, namely in addition to merit, charity, or goodness of a person during his lifetime in the world. That is, provision for a special place in the hereafter can be obtained by holding certain parties which reach their peak, namely by erecting large stone buildings. This can be seen in real terms, namely the fact found on the Maskuning Kulon Site that placing the dead by erecting a place formed from a large rock arrangement called a dolmen grave which is used as a burial container for the dead. So the act of procuring this feast will be mutually beneficial for both parties, namely the dead and the left. These large stones will serve as protection for virtuous people. The attainment of the privileges that exist in the afterlife or where the spirits of the ancestors are based on charitable deeds that have been done while the human is alive [11].

The second concept of religion is the belief that a person's spirit does not disappear when the person dies but instead goes to a place, where the spirits of the ancestors are located. Based on the background of this conception of belief, it encourages megalithic communities in the past to bury their community members or families as well as possible. Placing the dead in a megalithic building is considered a mutually beneficial behavior between the deceased and the family left behind. Supporters of the megalithic tradition believe that the spirits of ancestors who have died continue to live eternally in the spirit world. They also believe that their lives are greatly influenced by the spirits of their ancestors.

This action is based on the belief that there is a relationship between the living and the dead, especially the strong influence of the dead on the welfare of society and safety, health, fertility, etc. It is largely determined by how they treat the spirits of their ancestors who have died. They believe that with good behavior, they expect protection so that they are always protected from the threat of danger [11]; [12]; [13].

Based on the second religious concept, customs emerged for the community supporting the megalithic culture to worship the spirits of their ancestors. In this context, it can be seen through the burial

process system, for example by the inclusion of graves for the dead and the orientation towards the grave container at the Maskuning Kulon Site.

The purpose of joining the grave provisions for someone who died is twofold. First, it is believed by megalithic tradition that it is a provision for a journey to the world of ancestral spirits. Second, as a provision so that during his eternity someone who died did not experience the slightest lack. In the case of findings at the MaskuningKulon site, researchers interviewed eyewitnesses during the excavation of the dolmen grave No.1 in 1996 when the excavation was carried out by Mr. BagyoPrasetyo when the pottery was found  $\pm 2$  m from the grave container, where the pottery was buried in the ground. Pottery is a life tool that is used to help everyday human life. If we look at the grave containers, there is no evidence of any settlements, so the researchers suspect that the pottery was deliberately planted and used as grave provisions.

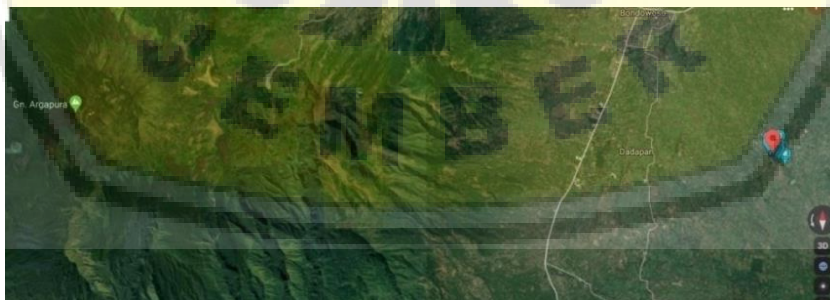
In 1990, there was also an illegal excavation that was carried out on a burial container at the MaskuningKulon Site, according to local information the discovery of human skeletons and beads. However, this information is difficult to trace further, due to the lack of data on this site.

Worship of ancestral spirits can also be seen in the orientation towards the grave container. Some opinion states that the location of the stone graves is always connected with a certain direction. James argues that the orientation of the graves indicates the direction of the spirit leaving the body, which is the abode from which they came [1]. Ancestral spirits are seen as holy spirits, which reside in high places such as the tops of hills, treetops, and mountain peaks [12].

Punkri, Burwadih, Chano (Rola), and birbir confirm that the megalithic weepositioned by aligning them not only to the hills in the horizon but also towards cardinal directions and to vital sunrises and sunsets by studying the movements of the sun [14].

Megalithic society believes that the spirits of the ancestors are in a high place. The human mind is called chatonic. Because a high place is considered a sacred place where the ancestors are, the direction towards the corpse is oriented towards the corpse's face towards a high place around the area. So that the grave container adjusts the direction toward it according to the position of the corpse. Humans think with such a position will help the corpse not get lost in traveling to where the ancestral spirits are [15].

The direction toward the dolmen grave located at the MaskuningKulon Site overlooks the Iyang Mountains. The following is a satellite map image of the whereabouts of the archaeological remains of megalithic culture at the Maskuning Kulon Site along with the Iyang Mountains whose peak is Mount Argopuro.



**Figure 3.** Aerial Photo of Maskuning Kulon Site and Mount Argopuro

#### *3.4 Social System of the Maskuning Kulon Site Community*

The social life of the Besuki megalithic community in Bondowoso recognizes the pattern of permanent housing. They live permanently by building residential houses. This is evidenced in the findings of kenong stones at the Pakauman site which is concluded to function as a base for building houses [15].



As for the description of the shape of the houses where the megalithic community lives at the Maskuning Kulon Site at that time is difficult to identify, because data to date, around the archaeological remains, there are no remains of buildings that describe the existence of houses such as archaeological remains that exist in the form of a stone foundation. If you look at the archaeological remains at the MaskuningKulon Site, only dolmen graves were found which were used as burial containers, this evidence can be ascertained that the Maskuning Kulon Site was a burial site at that time.

At the MaskuningKulon Site, there is no evidence of archaeological remains of megalithic culture in the form of stone foundations. However, about  $\pm$  4 km from the Maskuning Kulon Site there is a site called the Kejayan Site where the site is still in one sub-district with the Maskuning Kulon Site. At the site, the discovery of a building which was thought to be a kenong stone used as a building's base, this was only a temporary suspicion because there was no further research on the site.

The megalithic community of the MaskuningKulon Site has also been familiar with the technology of making pottery. The fact that they were familiar with the technology of making pottery was proven during the excavation that was carried out in 1996 according to information from the caretaker of the Maskuning Kulon Site, the excavation was carried out by Mr. BagyoPrasetyo from the findings of pottery fragments around the location of the dolmen No.1 grave on the Maskuning Kulon Site.

The social life of the Besuki megalithic community in Bondowoso is confirmed to have had a complex order marked by social differentiation and social stratification. This is inseparable from the social life of the megalithic community in the MaskuningKulon Site, which is an integrated area within the scope of the Bondowoso megalithic community. The existence of social differentiation is revealed by the results of ethnoarchaeological research in Nias (North Sumatra) conducted by Mulia (1981), Schnitger (1989), and Taylor (1991); in West Sumba (East Nusa Tenggara) conducted by RetnoHandini (2008); and Toraja (South Sulawesi) carried out by RetnoHandini (2008) and Hasanuddin (2015), which embodied social classifications based on expertise, namely the leaders and administrators of ancestral worship rites; the leader and organizer of the procession pulled the stone; megalith-making group; a group of makers of grave items; etc. [8].

Social stratification is levels based on human social status. The fact of the development of social stratification in the megalithic community at the MaskuningKulon site is evident from the findings of data in the form of a grave container in the form of a dolmen grave. The findings of archaeological relics of megalithic culture at the Maskuning Kulon Site are currently 58 dolmen graves, with a large enough area that it is impossible for people who have lived in the Maskuning Kulon Site to be as many dolmen graves as there are. Then where are the rest of the humans?

The results of ethnoarchaeological research in East Nusa Tenggara conducted by HarisSukendar (1994/1995) show that not just anyone can be buried using a grave container. Because the implementation of this burial system required very heavy ritual preparation and requirements. Therefore burials with grave containers are reserved for prominent people, respected people, or figures in society (bigman).

Burials with grave containers are still distinguished by their high and low social status. The distinguishing indicator is that it appears physically in the form of the size and celebration of the decorative patterns found in the grave container. The higher the social status, the bigger the size and the greater the decorative pattern of the grave container [8].

According to the belief of the Nias people, only people with the title siila or siula are allowed to hold a party (owasa) and erect megaliths including burial containers. Because that person is considered to have privileges in terms of ability and role in society. People who have the title Siila may have a relationship with Salawa or Siulu. Salawa or siulu has a high social position (balugu) in the village community as a place to lean on, take refuge, and as a legal power amplifier that has been passed down from generation to generation. Salawa or Siulu as community leaders, customs and beliefs are considered as the incarnation of their ancestors [16].

The cultural life of the megalithic community at the MaskuningKulon Site is certainly an egalitarian (mutual cooperation) pattern of life. The foundation is in the form of a spirit of unity, togetherness, social solidarity, social solidarity and mutual assistance, which are firmly bound by customs and religion.

This is reflected in the findings of data in the form of archaeological remains that are quite large and massive. Judging from the manufacture of grave containers, such as the grave of a dolmen. The raw material for the stone to make such a large burial container and move it from a quarry to a burial site would not have been possible without the involvement of a large crowd.

### 3.5 The Economic System of the Maskuning Kulon Site Community

The economic condition of the megalithic community in the Maskuning Kulon site is certainly good enough, the residents live in sufficient conditions. This is evidenced by the ability to bury its citizens using a grave container. For burial using a grave container, apart from requiring time but also a lot of energy and costs because it has to pay wages to the workers and has to sacrifice animal sacrifices in the form of pigs and chickens [17]. According to the results of ethnoarcheology in Nias conducted by Schitger (1998), megalith makers are paid ½ pao - 3 pao or 5 to 30 grams of gold [8].

Humans have various considerations in determining where to live and activities that are carried out to meet their daily needs. In general, they will choose a safe place to live and do activities near the natural resources needed [16]. Broadly speaking, the economy of the Besuki megalithic community in Bondowoso represents a fairly complex economic life, which relies on agriculture, trade and livestock [8].

On one of the archaeological remains No. 55 has features similar to hole stones. however, there are two possible factors for the formation of these holes. The first factor was deliberately formed, and the second factor was a formation from nature. The monolith function of the hole stone is a medium for calculating the time associated with the growing season [15]. If it is true then it can be concluded that the archaeological remains No. 55 this is a monolith. However, the findings of this evidence are still weak and limited.



**Figure 4.** Dolmen Number 55 in Krasak Hamlet, Maskuning Kulon

Trading activity is evidenced in the finding of pottery at the Maskuning Kulon Site, this evidence is the result of an interview with a caretaker at the MaskuningKulon Site. The function of pottery is used as cooking utensils, eating and storing things.

This shows how family activities in the Maskuning Kulon site community. The pottery is the product of local residents. So the pottery in this case can be a multifunctional object. Apart from its ideotechnical and tectomic functions, pottery may be used as a sociotechnical tool or a medium of exchange in a barter transaction.

In general, livestock activities are always present at the same time as agricultural activities because both are characteristics of the life of people who are familiar with permanent housing patterns.

Animal husbandry activities at the Maskuning Kulon Site are only conjecture because the data and evidence of findings on this site are not found. However, the excavation of Willems in 1938 in one of the dolmen's graves found animal teeth, but the suspicion is still weak and limited [15].

#### 4. Conclusion

The number of archaeological remains of megalithic culture at the Maskuning Kulon Site is known to have 58 remains scattered into two distribution locations, namely Pujer Hamlet with 7 archaeological remains and Krasak Village with 51 archaeological remains. The distribution pattern in the archaeological remains of megalithic culture at the Maskuning Kulon Site is known to have two distribution patterns, namely the distribution pattern in adjacent groups and single distribution patterns. It is known that the typology of the archaeological remains of megalithic culture is entirely dolmen graves.

The belief system of the megalithic community at the MaskuningKulon Site holds two religious concepts, namely "death is seen as not bringing an essential change in one's position, condition and character" and "the belief that a person's spirit does not disappear when the person dies, but instead goes to a place, namely where the spirits of the ancestors reside. The social system of the megalithic community at the MaskuningKulon Site is familiar with the pattern of permanent housing and permanent residence. The megalithic community at the Maskuning Kulon site has begun to recognize various kinds of technology, such as the technology for making pottery. Besides, they have also arranged their society in such a complex order, namely the development of social differentiation and social stratification. The cultural system in the megalithic community at the Maskuning Kulon Site can be ascertained of an egalitarian pattern (cooperation), which is reflected in the findings of archaeological remains of megalithic culture at the Maskuning Kulon Site in the form of burial containers that are very large in size and massive in shape. The findings in the form of archaeological remains in the form of grave containers and pottery illustrate that in general, the economy of the megalithic community at the Maskuning Kulon Site is good and sufficient. It is because burial using a grave container cannot be done by just anyone, only people who have a high position can bury their families using grave containers such as the dolmen's grave at the Maskuning Kulon Site. In addition to the economic system, the megalithic community in the Maskuning Kulon Site relies on agriculture, trade, animal husbandry.

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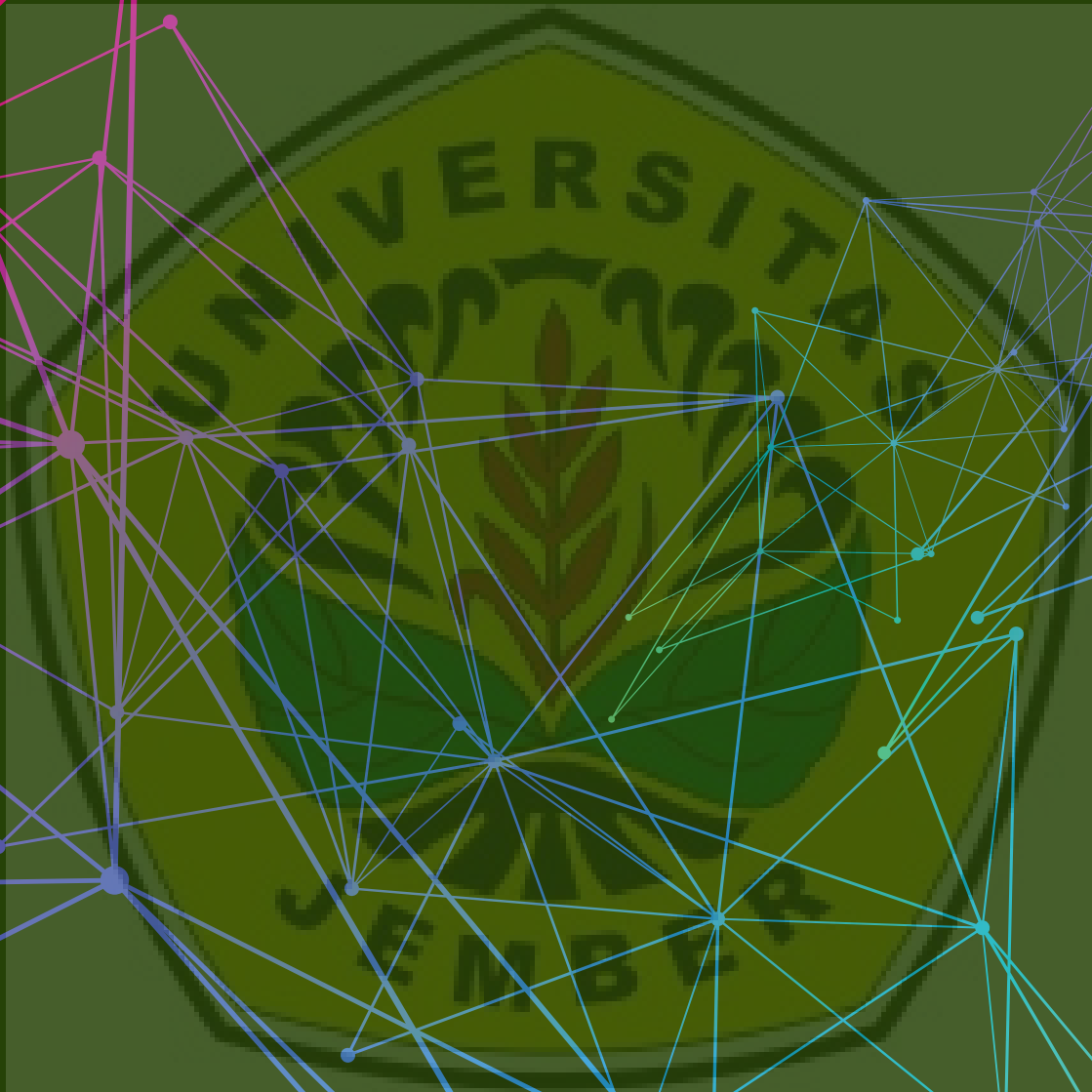
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