

The Analyze of Ethnoscience "Sanggring Gumeno" on Islamic and Science Learning Materials

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Abstract: The purpose of this study was to analyze the ethnoscience study "Sanggring Gumeno" on natural science material using a qualitative descriptive method. The study was carried out using observation techniques, interviews, and literature studies. The research subjects were the people of Gumeno Village, Gresik Regency, East Java Province. This research examines the ethnoscience associated with science with Islamic values in the field of Education. The results of the ethnoscience research were obtained from the indigenous knowledge of the community about "Sanggring Gumeno" which is linked to scientific and Islamic knowledge. The tradition of "Sanggring Gumeno" is found in scientific materials on chemical and physical changes, additives and addictive substances, nutrition, separation of mixtures, temperature and heat, and measurements. The Islamic value of the "Sanggring Gumeno" tradition is the culture of the Gumeno people which is carried out on the 23rd night of the month of Ramadan to welcome the night of Lailatul Qadar. The Islamic aspects contained in this tradition are sincerity, piety, obedience, honesty, and the implementation of *habluminallah* and *habluminannas*.

Keywords: Ethnoscience, Islamic and Science Material, Sanggring Gumeno.

Introduction

Globalization can be interpreted as a social process by which geographical constraints on social and cultural arrangements recede and in which people become increasingly aware that they are receding (Betul, 2002; Mosedale, 2014; Rifai, 2013). Globalization is something that cannot be avoided in society and has affected all aspects of life, from education, science, technology, social to culture. Human culture was acquired or created by man as a member of a society that contains mostly Language. Whereas cultural processes as designed to embrace the soft networks of society, assumptions, premises, understandings, rules, and intangible values (Magu, 2015). However, the habits and lifestyles of westerners seem to be a modern mirror of the presence of Western culture as if it dominates and has always been the trend-center of society (Irmania, Trisiana, & Salsabila, 2021). All these trends (cutting-edge styles) can bring positive and even negative influences can be seen from the consequences they cause and can

erode local culture and wisdom that is the heritage of the archipelago.

Indonesian culture is the entire local culture that exists in every region in Indonesia. Culture is an asset of the nation that needs to be maintained and preserved so that its authenticity and existence are not eroded by the torrent of globalization. The durability of a culture, including local culture, depends largely on the changes that occur in its society (Maridi, 2015). This includes values and customs; a view of life or a system of life that is still adaptive in its society. The idea of cultural preservation has never subsided and has even become a classic expression. But efforts to preserve the culture seem to have not found an effort that can restore collective memories, so that they can remain part of people's lives. Various preservation strategies can be carried out through efforts to revitalize and diversify cultural works without having to eliminate the noble values of the culture concerned (Jayadi, 2014).

One of the heritage of the archipelago in East Java, precisely in Gresik Regency, is sanggring Gumeno. Sanggring Gumeno is a tradition that is carried out on every night of 23 Ramadan and is eaten together during iftar (Mufarohah, 2014). This culture is inseparable from the great history. It is said that the sanggring gumeno culture is related to the proselytizing event of Sunan Dalem. In the course of proselytizing, Sunan Dalem fell ill and never recovered. On the 22nd night of Ramadan, Sunan Dalem had a dream. In his dream, he gets a clue about the cure for his illness, namely that he must eat a food with the main condition that the rooster is young. Sunan Dalem then sent the men (santri) to prepare the spices of his dishes, namely leeks, Javanese sugar, cumin, and coconut milk. Meanwhile, other students are looking for young roosters (Rizqianah, Aliffiati, & Murniasih, 2021). So for remember this history, the implementation of sanggring gumeno has been preserved until now. However, it turns out that this culture is only limited to being a culture on the 23rd night of Ramadan and has never been applied in learning.

Even though culture can be used as a source of learning knowledge commonly called ethnoscience. Ethnoscience is a strategy to create a learning environment by integrating culture as part of the science learning process (Sarini & Selamat, 2019). Ethnoscience encourages teachers and education practitioners to teach science based on culture, local wisdom and problems that exist in society, so that students can understand and apply the knowledge they learn in the classroom can be used to solve problems they face in everyday life (Fahrozy, Irianto, & Kurniawan, 2022). Besides being able to be integrated with science learning, Sanggring Gumeno also stores Islamic values such as obedience to worship addressed to God Almighty. Therefore, this study aims to analyze Sanggring Gumeno on aspects of science and Islamic learning.

Materials and Methods

Study area

This research was conducted by qualitative methods. With the subject of community research,

science teachers, and ustadz in Gumeno village, Gresik district, East Java. Data collection techniques using interviews, observations, and literature reviews

Procedures

Interviews

Interviews were conducted with the community, science teachers, and ustadz who knew the Gumeno sanggring tradition. This is done so that the research is relevant and gets the appropriate information.

Observation

Observations were carried out at the time of making the Gumeno sanggring. However, at the time of carrying out this traidisi research has not been carried out, so the observation is only through video.

Literature Review

Literature review aims to obtain data with reliable sources through books and articles

Data analysis

The data that has been collected is analyzed by triangulation, namely looking at the similarity of answers between interviews, observations, and literature reviews. Triangulation using multiple sources of data means comparing and cross - checking data collected through observations at different times or in different places, or interview data collected from people with different perspectives or from follow - up interviews with the same people (Meriam, 2009).

Results and Discussion

Result

The process of making sanggring gumeno can be seen in this figure



The data collection results can be seen in table 1

Table 1. result of data collection

items	interview		observatio n	Literature review
	Community	Science teacher		
Materials	Onion, cumin, coconut, brown sugar, powdered broth, chicken	Additives and additive substances Classification of substances Separation of mixtures	Honestly	Gumeno sanggring culture has been discovered in Gresik with its distinctive making and taste
Process	Roast cumin to fragrant Pour coconut milk, let stand to boil Put brown sugar and chicken Add powdered broth and salt Cook until cooked	Physical and chemical changes Measurement Temperature and heat	Honestly	
Sanggring sharing	Sanggring eaten together and distributed to relatives and neighbors at iftar	Nutrients	Sincerity silaturrahmi	

Table 1. Description of Sanggring Gumeno

Item	Scientific Knowledge	Islamic values in indogeneous knowledge
Materials	Additives and additive substances Classification of substances Separation of mixtures	From donations used to buy ingredients to the process of making "sanggring Gumeno" there is a value of honesty and sincerity of the community
Process	Physical and chemical changes Measurement Temperature and heat	يا أيها الذين آمنوا اتقوا الله وكونوا مع الصادقين "O you who believe! Fear Allah, and be with honest people" QS. At Taubah:119
Sanggring sharing	Nutrients	After going through a long cooking process, sanggring is distributed to pilgrims and families on the 23rd night of Ramadan, on this item strengthens silaturrahmi, adds to the flexibility to share and alms to fellow human beings, so as to add to the blessings of gratitude In addition, on the 23rd night of Ramadan, various amaliyahs are also carried out which increase obedience to Allah فذكرين التوكل والتوكلوا الي ولا تقرون "Therefore, remember Me, I will remember (also) you, and be grateful to Me and do not deny (favor) Me" QS. Al Baqoroh: 152

Discussion

In 2019, Gumeno sanggring was recorded as Indonesia's intangible cultural heritage. Sanggring Gumeno is an intangible cultural heritage that begins with the proselytizing event passed down by Sunan Dalem. Sanggring Gumeno is held every night of the 23rd holy month of Ramadan in the village of Gumeno. Sanggring Gumeno is a unique food because 1) its main ingredient is unique from compotes in general; 2) held once a year; and 3) the "sacred" cooking process where only men cook. In its development, Sanggring Gumeno is not only limited to making food to open together, but has spiritual value and can be used in learning.

Based on the results of interviews with various parties, such as the community, science teachers, and ustadz that in the materials, processes, and traditions of sanggring Gumeno can be associated with science learning and storing high spiritual values. However, so far science learning has not applied the ethnoscience of sanggring Gumeno which is integrated with Islamic values. The ingredients in making Gumeno sanggring include onions, cumin, coconut, brown sugar, powdered broth, chicken.

In these materials, if applied in learning, students can classify types of substances, additives, and mixture separation. The classification of substances at the junior high school level science material is included in class VII material, where the classification of substances is divided into solids, liquids, and gases. This is in accordance with the ingredients in making Sanggring Gumeno, namely onion, cumin, coconut, brown sugar, powdered broth, and native chicken including solid substances. Water mixed with coconut to become coconut milk includes liquid substances, as well as the smell produced from the cooking process is said to be gas. In addition to the main ingredients, there are additional ingredients used in the process of making Sanggring Gumeno, namely brown sugar and powdered broth. These additives are referred to as additives that are deliberately added to the dish so that the dish has a good taste (Emilia et al., 2020). One of the ingredients that makes sanggring taste good is coconut milk. In the process of making coconut milk, there is a process of separating the mixture, namely the separation of coconut granules from coconut milk using a filtrator (Parahita, 2018).

In the process of making sanggring involves material changes in physics and chemistry that were previously associated with measurements and temperatures. The first thing to do is to measure the materials to be used. This aims to produce a delicious sanggring with proportional seasoning. To measure materials of the solid type using a balance sheet, while liquid materials use measuring cups or commonly called liters. The tools for measuring are related to class VII measurement materials. The second step is to heat the furnace over medium heat. This is related to temperature and heat material related to class VII science material. If the fire is not controlled then the Gumeno sanggring will burn easily, and vice versa if the fire is too small then Sanggring Gumeno does not mature quickly.

In addition to the pre-making steps of sanggring, the most important step is when making sanggring. First, roast cumin until fragrant. In the process of roasting cumin, there is a process of chemical change, where there is a change in particles and color so that the substances owned by

cumin cannot return to their original shape. Secondly, pour coconut milk to a boil. In the process of boiling coconut milk, there is a change in physics, where the higher the temperature, the faster the movement of coconut milk particles so that coconut milk boils quickly. In addition to boiling, coconut milk is also subjected to evaporation. Third put brown sugar and chicken; adding powdered broth and salt; waiting for it to ripen. In the third process undergoes a chemical change, namely the chicken turns into mature and cannot return to its original shape.

After the sanggring is cooked, it will be distributed to relatives and neighbors to open together in the mosque. Sanggring has a distinctive and delicious taste, coupled with tender and nutritious chicken. Chicken has a high content of vitamin B6, a source of protein, and is high in fat, especially in the lower part of the skin. Protein is useful for maintaining healthy bones, muscles, as well as tissues in the body, as well as blood clotting processes. While vitamin B6 is useful for the development of the brain, nerves, and skin.

The community carries out the sanggring tradition based on a sense of obedience to a descendant of kamil (saints), namely Sunan Dalem who is the son of Sunan Giri. This obedience can be regarded as worship directed to God Almighty. Sanggring tradition is a tradition that coincides with the month of Ramadan, namely the 22nd of Ramadan or the 23rd night. The month of Ramdhan is a blessed month. On the final dates or above the 20th, it is believed to be the nights of the descent of Lailatul Qadar, a night better than a thousand months.

In addition to religious values, in making sanggring gumeno also applies the values of honesty and sincerity. This is because in making it, the community works together to give alms and share, both energy and materials for making sanggring. If there are people who are generous in donating the ingredients for making sanggring, then the chef must also be honest in spending his mandate. In addition, chefs are also required to be honest in making sanggring according to the dosage without being reduced in the slightest. Of course, if the sanggring is cooked, it will be eaten

together at the time of breaking the fast, of course, it will add to the value of habluminannass.

Conclusions

The conclusions of this studies are One of the cultures of "Sanggring Gumeno" which is carried out on the 23rd of Ramadan can be used as a source of learning science that is associated with Islamic values; science materials that can be found in Sanggring Gumeno are in the form of materials and manufacturing processes as well as sharing sanggring that can be consumed by the community; and the Islamic values contained in this tradition are sincerity, piety, obedience, honesty, and the implementation of habluminallah and habluminannas.

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