



SCIENTIFIC STUDY OF ETHNOSCIENCE IN THE PROCESS OF MAKING TRADITIONAL SALT

Olivia, P^{1,a)}, Rahimi, G¹, and Dewi, I, P¹

¹ Departement of Science Education, Universitas Negeri Padang, Jl. Prof. Dr. Hamka, Air Tawar Padang 25131, Indonesia

^{a)}E-mail : putri.olivia280198@gmail.com

ABSTRACT

Padang Pariaman Regency has an area famous for its beach tourism. No doubt the average occupation of the surrounding residents works as fishermen. Abundant marine products make people associate with the beach. One of the uses of sea water for the manufacture of salt in the Sungai Limau District. Salt water can be seen as a square salt sea equipped with windmills to take sea water from the channel to the pond and processed into salt. Although local salt production is sufficient for industrial raw materials, therefore best practical technology is needed. The aim of this work is to directly improve the salt production process and the basic techniques for diversifying salt production, namely salt and bittern. The results of this work are as follows. Getrape type salt ponds are applied, where the young water embankment is located upstream and the seed pool descends to 1, 2, 3, then distributed to the crystal pot. Sea water is taken through a primary embankment to be pumped at an altitude of 1.5 m, so that it is still full of water at high tide. In the crystallizing pan (size 200 m²) sea water will be allowed to stand for 7-10 days until it is crystallized. Crystal salts located under the bittern solution can be crushed and collected at the collection point. Bittern left-after 29-30 ° Be can be drained back into the seed, collected at the bitter collection point.

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Keywords: Sungai limau, Salt, Bittern

INTRODUCTION

Indonesia's potential to become a producer of salt is very large because Indonesia has a coastline with the largest coastal area to support the manufacture of salt for small scale and industrial scale. However, this

potential is not matched by an increase in the number and quality of salt production in Indonesia. One of them is in the Limau River area, Pariaman, West Sumatra. Salt production by the community in general is still traditional, so it has very high limits on

climate or weather. Technically, what is needed for salt production are: (1) high evaporation / evaporation (average > 650 mm / year); (2) Wind speed and direction above 5 m / sec; (3) The air temperature is greater than 320 C; (4) 100% solar radiation; (5) Air humidity less than 50% H; (6) Low rainfall (between 1,000-1,300 mm / year or under 100 mm / month); and (7) Dry, long dry season without interspersed with a rainy day of at least 140 days (14 extensions). This weather condition must be fulfilled because otherwise salt cannot be produced.

Salt farmers who are still traditional generally use multilevel evaporation technology, which is by flowing salt into several ponds to increase their salinity (salt content), so that salt grains can be produced. To be able to produce salt, the evaporation must be carried out continuously for approximately 7 to 10 days.

Salt production is very dependent on the weather so the amount of production is uncertain. In very hot weather (temperatures above 30oC), the process of salt crystallization takes place quickly

while at temperatures that are less hot (temperatures below 27oC) the crystallization process takes place slowly.

METHOD


The research method used is a descriptive qualitative analysis method, in which in this analysis the existing salt theory was developed further in accordance with the reality on the ground which was carried out when observing the field. This research was conducted on October 12, 2019 in the Sungai Limau District, Pariaman, West Sumatra.




RESULT AND DISCUSSION

Based on observations and interviews with salt farmers, information was obtained that the salt production process in salt ponds was traditionally carried out and passed down from the ancestors. Especially in the area of Sungai Limau, Pariaman, West Sumatra.

Because they saw that at the edge of the beach there was seawater which had crystallized by itself, so they saw a huge potential to open salt ponds. Previously, the processing of these juvenile salt ponds using multilevel evaporation technology, namely by flowing salt into several ponds to be improved salinity (the salt content), so that a grain of salt can be produced. To be able to produce salt, the evaporation must be carried out continuously for approximately 7 to 10 days.

Lately around 3 years they have been processing salt in this way. Interviewees said that the seawater in the area does not contain active salt so that it cannot crystallize naturally. Coarse salt purchased from Madura is reprocessed to produce finer salt. They do it by mixing seawater with coarse salt in a container, then heating using fire. After that it is allowed to stand until a finer salt is formed, and weighs more than the previous coarse salt.

No.	Community Knowledge	Picture	Description
1.	Salt is a complement to cooking		Sea salt is a collection of chemical compounds whose main part is sodium chloride (NaCl) with impurities consisting of CaSO ₄ , MgSO ₄ , MgCl ₂ Science concepts : elements, compounds, ionic bonds (Iswahyudi, Muharrami.2013)

No.	Community Knowledge	Picture	Description
2.	Sea water		Salt can be obtained in three ways, namely evaporation of sea water by sunlight, mining rock salt (rock salt) and from salt well water. Science concept : Separation of mixture, heat transfer. (Geertman, R.M. 2000)
3.	Making salt is done by evaporating seawater.		Making salt is done by several categories based on the difference in NaCl content, namely evaporation with sunlight in the salt making field, evaporation with fuel thermal energy in an evaporator and crystallization of salt in a crystallizer, electrochemical separation of salt solutions by electrolysis process and hencrystallization with crystallizer Science concept : crystallization .(Rositawati A.G., Taslim.2013)
			

CONCLUSION

It can be concluded that the community's knowledge about the traditional salt-making process, especially in the Sungai Limau District, Padang Pariaman District, West Sumatra Province, can be studied scientifically. So the process of making this salt can be said as one form of ethnainscience, where public knowledge that has existed for a long time and is passed down or passed down from generation to generation and can be proven scientifically.

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