

# Processing of Inasua as Local Wisdom from Teon, Nila and Serua Communities in Ceram Island

Komunitas: International Journal of Indonesian Society and Culture  
14(1) (2022): 43-52  
DOI:10.15294/komunitas.v14i1.30868  
© 2022 Semarang State University, Indonesia  
p-ISSN 2086 - 5465 | e-ISSN 2460-7320  
<https://journal.unnes.ac.id/nju/index.php/komunitas>

UNNES JOURNALS

Ferymon Mahulette<sup>1\*</sup>, Tri Santi Kurnia<sup>2</sup>, Ridolf Serpara<sup>3</sup>,  
Marselina R. Rupilu<sup>4</sup>

<sup>1,3</sup> Department of Biology Education, Pattimura University, Indonesia

<sup>2</sup> Department of Biology Education, FITK IAIN Ambon, Indonesia

<sup>2,4</sup> State High School 22, Maluku Tengah, Indonesia

Received: June 23, 2021; Accepted: February 5, 2022; Published: March 30, 2022

## Abstract

Inasua is a traditionally fermented fish product, local wisdom of Teon, Nila and Serua (TNS) Communities, Central Moluccas. Inasua processing initially using porkfish (*Ruvettus tydemani* Weber) as raw material. This fish is rarely found, so the people process inasua using a variety of reef fish. The processing of inasua has been done by the ancestors of the community for a long time, but information about processing this product is very limited. This research aimed to describe the techniques of inasua processing in Waipia, Ceram Island. Data was collected from direct observations in three villages representing three groups of TNS Communities, i.e. Layeni Village (Teonese), Kuralele Village (Nilanese), and Waru Village (Seruans). The processing of inasua was diverse in the three groups of TNS Communities. The people of Teonese usually process inasua using only salt and salt added with coconut sap, while the people of Nilanese use salt only. The people of Seruans usually process inasua using salt only, but some people also added coconut vinegar. This research was expected to conserve inasua processing culture to support the tourism in Central Moluccas Regency.

## Keywords

coconut sap; inasua; local wisdom; porkfish

## INTRODUCTION

The Moluccas have high fishery potential, especially in the Banda Sea. Fish is used as the main source of protein in this area. As a perishable food, fish needs to be preserved. One of the techniques of fish preservation by fermentation is *inasua*. *Inasua* is a traditional fermented fish produced by the communities in Teon, Nila and Serua (TNS) islands, Moluccas (Persulesy, et al. 2020; Mahulette, 2018a). This process was done by the ancestors to exploit the abundant fish-

ry potential in the Banda Sea previously.

*Inasua* processing techniques on these three islands are different. This is influenced by the geographical and cultural characteristics of each island. *Inasua* is local wisdom that has been conserved from generation to generation. Local wisdom is the ways and practices developed continuously

---

### Corresponding author

Ir. M. Putuhena Road, Poka Campus, Ambon City,  
Maluku, Indonesia

### Email

ferymonm@gmail.com

---

by a group of people in the form of traditions that are often done and eventually become a local habit (Devika, Prajawati et al. 2020). The process is carried out by family and local community including managing resource management (Dasion and Nugroho 2020; Mahulette, F., Mubarik, N.R., et al., 2018a). One form of local wisdom is the management and conservation of natural resources (Mawaddahni 2017). Modernization has reduced the tradition of processing *inasua* in three groups of TNS communities. This article was written to introduce and preserve *inasua* processing techniques as local wisdom of the TNS community. This research nuances the existing studies on Inasua by looking at the diversity of the ways to process Inasua.

The potential fisheries in the Banda Sea are not supported by the geological conditions of the TNS Islands that have volcanic activity, so that at any time can threaten of people lives. The TNS Islands is a row of volcanic islands located in the Banda Sea. The islands in this sea included in the pacific ring of fire so that they have fertile soil with various natural resources (Tiwery, Tiwery et al. 2014; Pattiruhu, G. M., Therik, W. M., 2020; Dasion, A.G.R. and Nugroho, H., 2020). In 1978, the Moluccas Government relocated the people of TNS communities to Ceram Island (the largest island in the Moluccas). The limited of fishery potential in Ceram islands caused the tradition of *inasua* processing was begins rarely done. Volcanic eruptions in the TNS Islands have never occurred until now, so the TNS people who have been living in Waipia often go to the TNS Islands to harvest agricultural products, such as cloves. Besides, they also process *inasua* from various types of fish to maintain the traditions of their ancestors. As an ethnic food, *inasua* is used as (1) side dishes on the voyage of TNS ancestors used sailboats from one island to another in the past to sell their crops, (2), stock food to anticipate famine time when fishermen couldn't go to sea because of strong wind and high rainfall intensity, and (3) cultural food in various traditional ceremonies, such as birthday, child baptism, *sidi Gere-*

*ja* (celebrate after learning catechism) and Christmas day. *Inasua* is usually consumed with *pisang santan* (banana boiled in coconut milk), cassava and sweet potato.

In 2015 the Government of Indonesia through the Ministry of Education and Cultural establishes *inasua* as an intangible cultural heritage from the Moluccas to conserve these fermented fish (Tiwery, et al., 2014; ). Besides, the TNS Waipia District Government also carries out the *Pesona Budaya* every two years to conserve the culture of the people which are almost lost, including *inasua* processing. *Inasua* is a local wisdom product of the TNS community that is not found in other areas, especially *inasua* with coconut sap. The processing of *inasua* has been done by the ancestors of the community for a long time, but information about processing this product is very limited. This study aimed to describe the processing techniques of *inasua* by TNS people on Ceram Island. Waipia TNS district is located on the route to the Masohi City (the capital of Central Maluku Regency). We argue that the processing of *inasua* was diverse in the three groups of TNS Communities. The people of Teonese usually process *inasua* using only salt and salt added with coconut sap, while the people of Nilanese use salt only. The people of Seruans usually process *inasua* using salt only, but some people also added coconut vinegar. .

### **Inasua as the Local Ethnic Food**

Fish is the main side dish for people in Maluku. People depend more on fish than meat and other side dishes. Some people think that if they don't eat fish for a day it causes headaches. In the Moluccan tradition, fish is usually consumed with *papeda* (a type of porridge made from sago flour). This habit has been carried out by the ancestors and is still maintained by some people as a local wisdom. People in urban areas usually eat fish with rice and vegetables (Indrawasih 2016; Mahulette, F., 2019). Fish is a perishable food. Fish catches are often abundant in certain seasons so that people often process them into more durable food products such as *bakasang* (Hursepuny, Moniharapon, et

al. 2021), salted fish, and inasua (Talakua 2014). Inasua is one of the traditional ethnic foods from the community because it is not produced in other communities in Moluccas, only in the Teon Nila Serua communities. So, the fermented food Inasua may be considered as a local ethnic food (Persulesy, Kusdiyantini, et al. 2020). Inasua processing is one of the local wisdoms in Maluku (Papilaya and Tuapattinaya 2022).

### The Etymology of Inasua

*Inasua* is a product of sea fish fermentation made by the people of the Teon, Nila and Serua Islands (TNS) in Central Maluku. These three islands are volcanic located in the Banda Sea (Figure 1) (Stubenvoll 2001). The term of *inasua* comes from the Nilanese language which consists of two words, i.e *ina* which means fish and *sua* which means salt. The people of Seruans more often refer to *inaskua* because the salt in Seruans language called *skua* (Taber 1993). So *inasua* can be interpreted as salt fish or salted fish. This term is only used by the people of Nilanese and Seruans, while the people of Teonese prefer to mention *inmana* with the same literal meaning. The difference in terminology is due to the different languages of the Teon people and those of the Nila and Serua (Engelenhoven 2003). *Inasua* is often called *posua* by TNS community (Tiwery, Tiwery, et al. 2014).

### The Teon, Nila and Serua Communities

The TNS Islands consists of three islands (also called *Nusra Telu*) with the villages following: Teon Island (Layeni, Isu, Mesa, Wotludan and Yafila), Nila Island (Usliapan, Kuralele, Kokroman, Ameth, Wotai, Sifluru, Bumei), and Serua Island (Lesluru, Waru, Trana, Jerili). The condition of the active volcano caused in 1979 the Moluccas Government relocates the TNS communities to Waipia in Ceram Island. This policy was also carried out in 1982 and 1983. TNS communities occupied the Waipia region in groups according to their island, i.e. Nilanese in the west, Teonese in the middle, and Seruans in the east, except for Mesa and Waru which

mixed with the Nilanese. TNS people who occupy the Waipia region perceive themselves as TNS people, rather than Teonese, Nilanese, and Seruans (Engelenhoven 2003). Although they have been relocated by the government, some communities remain in the TNS Islands, so that two areas of the TNS communities are known, i.e the TNS Waipia communities and the TNS Islands communities. The reason some people still live in the TNS Islands is that these volcanic islands are more fertile and better for farming.

### The Origin of Inasua Processing

The origin of *inasua* processing can't be separated from the ancestral traditions of the TNS communities who sailed to other islands in the previously. The TNS community ancestors were known as the greatest sailors who sailed between islands using a sailboat. The construction of this boat is made from wood with two masts (Figure 1.1). The TNS community ancestors sailed to several places in Java and Ambon Island to sell cloves and other crops. Sailing to Ambon Island was usually done around August using the east trade wind, so the voyage can be reached in just a few days. After selling the crops, the TNS ancestors returned to the TNS Islands. The voyage to the TNS Islands can be taken for weeks because against the wind (locally called *toma*) (Mahulette, Mubarik, et al. 2018a)

Along the voyage across the Banda Sea, the boat of TNS community ancestors often do not move in the ocean and they use this time to fishing. The fish that often obtained was devil fish (*Ruvettus tydemani* Weber) (Figure 1.2). This fish has a thick and oily skin that is also called porkfish (Gudger 1925). The Seruans call it *iwawi* (*ina* = fish, *wawi* = pig) (Taber 1993), while the Nilanese call *infafi*. Pork fish is demersal fish which can reach 3 meters in length with spiny skin with oily meat like pork. This species has less number of spines and backfins than *R. pretiosus* which is found in the Atlantic Ocean (Weber 1913).

Pork fish was originally described by Max Weber in the Siboga expedition in 1899.

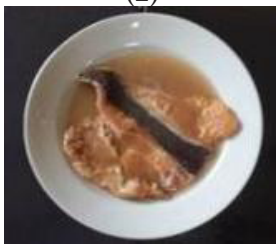
This oily fish is commonly found in the Banda Sea, especially in around the *Tukang Besi* Islands (Western part of the Banda Sea). The name of *tydemani* was given to honour G. F. Tydeman, leader of the Siboga expedition (Hasselt, Beekman, et al. 1900). This fishing of porkfish taken place at night using flying fish as bait when no moonlight and wind was blowing (Gudger 1928).



(1)



(2)



(3)

**Figure 1.** Sailboat (1), Porkfish (2), *inasua* from porkfish (3) (Personal documentation)

Pork is delicious to eat, but the meat of this fish has more powerful purgative properties than castor oil. This causes people to also refer to this fish as castor oil fish (Gudger 1925). The consumption of porkfish causes oily diarrhoea because wax ester (a type of undigested lipid derivative) content of the fish was high, so that some people called it as a *njawasake* (= causes 'disease') fish (Jansen 1939). The wax ester is esters of long-chain fatty acids with long-chain fatty alcohols which help fish buoyancy. Skin and bone of the fish are the parts that contain the most of this compound (Sato and Tsuchiya 1969). Oily diarrhoea (*Keriorrhea*)

was characterized by orange oil-mixed faces during defecation (Barling and Foong 2015). This causes people less interested to catch this fish.

Fishing of porkfish was continuously obtained during the voyage return to the TNS Islands so that the ancestors of the TNS community try to preserve these fish with salt to be consumed in a long time. The porkfish that have been cut and smeared with salt then put in bamboo. After being allowed for several months the fish can be consumed without causing of oily diarrhoea. The preserved fish was called *inasua* (Figure 1.3). *Inasua* has a very salty taste because of the many salts that was used to preservation. This causes some people to add coconut sap (locally called *sagero*) to reduce the saltiness of *inasua*. This technique was further developed into local wisdom of this area that was not found in other areas.

During the voyage of TNS community ancestors were used *inasua* as food stock. The consumption of *inasua* was also making the body feel warm so that the ancestors of the TNS communities can survive the cold night air in the ocean. *Inasua* was usually consumed with tubers, such as cassava and caladium. The tubers are coated with banana leaves and burned in the ground. The food processing in this way was called burned stones by the TNS communities. The burning of tubers in the ground aims to give a specific flavour and reduce the water content so that the tubers can be consumed in a long time (Mahulette 2019).

Since the relocation of the TNS communities to Ceram Island, the shipping tradition of the TNS community sailed the Banda Sea and the *inasua* function gradually disappeared. This also caused the development of technology that replaced sailboats with motorboats and ships for transportation in this area. The function of *inasua* as a food stock when voyaging turned into food reserves to anticipate the famine time. The famine time took place at the shifting the fishing season from east to west in the TNS Islands. The geographical condition of the TNS Islands which is separated from the other islands causes the northwestern season



to be bumpy and the fishermen could not go to sea. During the east season the TNS community processes *inasua* as a side dish for consumption in the west season (Stubenvoll 2001).

### Processing of Inasua

The processing of *inasua* use porkfish as a raw material has been rarely done because it was difficult to get off this fish. People tend to use various type of fish that live around the coral reefs as the raw material of *inasua* processing. The reef fish that was often used to process *inasua*, such as *bobara* (*Caranx melampygus*), parrots (*Callyodon cyanognathus*), *kerong-kerong* (*Caerio erythrogaster*) (Nara, Ijong, et al. 2013), and *bae* (*Lutjanus malabaricus*) (Nendissa 2013). Processing of *inasua* also use other reef fish such as *beronang* (*Siganus gutatus*), *lencam* (*Lethrinus ornatus*), and *gurara* (*Lutjanus vitta*) (Mahulette, Mubarik, et al. 2018a) (Figure 2). The processing of *inasua* by the TNS community was variable but can be distinguished in two types, i.e, *inasua* without coconut sap and *inasua* with coconut sap (Mahulette 2019). Some villages don't use fresh coconut sap, but they use sap that has been fermented into vinegar (Tiwery, Tiwery, et al. 2014).

*Inasua* processing is different from other salted fish. Generally, salted fish is processed by salting and followed by drying it in the sun, while *inasua* is processed by salting and fermentation. This causes the salted fish product soaked in a salt solution so it is called wet salt fish (Persulesy, Kusdiyantini, et al. 2020). *Inasua* fermentation involves some lactic acid bacteria, such as *Lactobacillus* and *Leuconostoc* which produce acidic and volatile compounds that give specific taste to the *inasua* (Mahulette, Mubarik, et al. 2018b).

### Quality of Inasua

The quality of *inasua* is largely determined by the type of fish used as the raw material. *Inasua* which is processed using porkfish has high economic value. Soft texture, oily and distinctive aroma causes the selling price of this fermented fish product to reach

Rp.300.000/5 kg compared to the selling price of other types of fish which only reach Rp.200.000/5 kg.

The quality of *inasua* was largely determined by sensory characteristics and shelf life. The main sensory characteristics that distinguish between *inasua* with sap and *inasua* without sap were texture, taste and aroma. Besides being influenced by the type of fish used as raw material, these three characteristics are also influenced by the processing technique. *Inasua* with sap has a softer texture with a distinctive aroma of volatile compounds. The volatile compounds were derived from the metabolism of coconut sap by microbes. In contrast to *inasua* without sap which has a solid texture, salty, and less flavourful. Although fermentation takes place in submerged conditions, *inasua* sap has a longer shelf life than *inasua* without sap. Sensory characteristics and shelf life are strongly influenced by microbial composition that plays a role in fermentation. The shelf life of *inasua* can last up to more than a year if coconut sap was added at the beginning of the fermentation. The length of fermentation time produces a better taste of *inasua* (Mahulette 2019)

## METHODS

This research was descriptive qualitative to describe the method of *inasua* processing in Teonese, Nilanese, and Seruans in TNS Waipia District, Central Moluccas. Data was collected from direct observations and documentation from producers in several villages (different clan) i.e Layeni Village (Teonese), Kuralele Village (Nilanese), and Waru Village (Seruans). (Figure 3). The information was also collected from producers through interviews using a questionnaire. Determination of producers purposively who was considered to know the most about the processing of *inasua*. Three informants were interviewed in each village so that the total number of informants was 9 people. The questionnaire contains questions about the processing of *inasua*, including raw materials, technique of fermentation, and storage containers of *inasua*. The answers of infor-

mants were supported by documentation of the processing of the *inasua*. The results of interviews and documentation from each village were collected for analysis. The results of the analysis were then compared with the geographical and cultural differences of each village and supported by a literature review.

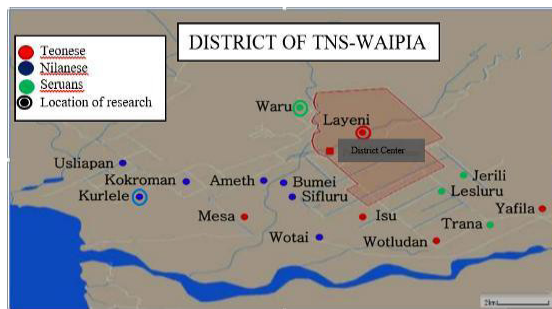


Figure 3. Location of Research

## RESULTS AND DISCUSSION

### The Processing of Inasua in Teonese

Processing of *inasua* in Teonese consists of *inasua* which only salt and salt added coconut sap. Coconut sap was liquid that collected from the immature palm spadix. Coconut sap that used to process of *inasua* was fresh. Processing of *inasua* use addition of coconut sap only done by some people. In the beginning, Teonese people process of *inasua* without coconut sap, but then they added coconut sap to reduce the saltiness of this product. Coconut sap also serves to inhibit the growth of spoilage microbes during *inasua* fermentation (Wattimena, Temartenan, et al. 2020). The use of coconut sap in *inasua* fermentation by the Teonese has probably been going on for a long time because coconut is the most dominant plant in Teon Island (Tiwery, Tiwery, et al. 2014). This tradition was maintained by the Teonese even though they had relocated to Ceram Island. In these islands, the government recommends them to plant hybrid coconut trees to produce copra, but these plants were less productive, so the people use it sap to process other products, including *inasua*.

The difficulty in obtaining coconut sap causes people process of *inasua* using

the only salt as a preservative. The rarely of coconut sap because the people were more prefer to process coconut sap into Ambonese arrack (locally called *sopi*) which has more economic value. Ambonese arrack was a traditional alcoholic beverage that distilled from fermented palm sap. This drink was very popular with the people of Maluku, especially TNS Community. Also, the intervention of Church that limits the use of coconut sap as a raw material for wine causes many farmers to leave their profession as sap tapper (locally called *tukang tifar*) so that the people were difficult to obtain coconut sap.

Coconut sap that was added in *inasua* serves as a source of microbes and also a source of carbohydrates for microbial growth that plays a role in the fermentation process (Paludan-Muller, Madsen, et al. 2002). The microbes found in coconut sap were dominated by yeast and lactic acid bacteria (Mahulette and Astuti 2020), while the dominant carbohydrates were simple sugars such as fructose, sucrose and glucose. The Coconut sap was also served to eliminate fishy odors and improve the taste of fermented fish (Velasco 2015). The coconut sap can be fermented into alcohol and subsequent oxidation to vinegar so that it contributes to the taste of *inasua*. The addition of coconut sap was a major characteristic that distinguishes *inasua* from other fermented fish products.

*Inasua* was processed by Teonese in Waipia generally uses a mix of reef fish, while *inasua* using porkfish was usually sent from Teonese in Teon Island. The types of reef fishes usually used were *gurara* (*Lutjanus vitta*), parrot (*Callyodon cyanognathus*), samandar (*Siganus gutatus*), and sikuda (*Lethrinus ornatus*). The fishes that have been prepared to make *inasua* split longitudinally from the side form like butterflies then weeded to remove the gills and viscera. The weeded fish was then washed with seawater and dipped in *sagero* vinegar. *Sagero* vinegar was vinegar fermented of coconut sap. After the dyeing, the fish was pale and harder texture. Fish that have been dipped in *sagero* vinegar then smeared with 20-30% salt (no crushed) of the weight of the fish



**Figure 4.** Processing *inasua* in Teonese. Fish split longitudinally (1), weeded to remove the gills and viscera (2), soaked in *sagero* vinegar (3), smeared with salt (4), pressed use stone (5), added coconut sap (6), the jar closed and fish allowed to ferment at room temperature (7), and the jar closed without added coconut sap

then put in sacks and pressed with stones for 2-3 hours. Fish that has been pressed then put in a jar and added coconut sap until soaked. The jar was then closed and the fish allowed to ferment at room temperature to produce *inasua*. In the processing of *inasua* without sap not added coconut sap (Figure 4).

The traditionally of *inasua* fermentation was stored in betung bamboo (*Dendrocalamus asper*) or *tempayang* (large barrel made of clay) as a container. Both of these containers were still used by the Teonese who live on the islands. The bamboo-segment was stabbed using a hardwood, so that bamboo can store in large quantities of *inasua*. After *inasua* was entered, bamboo then corked using palm sugar fibre and covered with coconut shell, so that no animals enter and avoid the fermentation vapour of *inasua* out of bamboo. Beside to functioning as a container, bamboo also gave a specific flavour to *inasua*. The technological developments and the commercial importance cause the people were used jars or jerry cans to store of *inasua*. *Inasua* that has undergone fermentation was then washed and added some herbs (without salt) or fried before serving. *Inasua* frying was usually served to people who were not TNS community.

The Teonese make *inasua* by prioritizing environmental sustainability. Viscera and other waste from *inasua* processing are usually disposed of far from human settlements or cooked and used as animal feed. Besides, the viscera produced by *inasua* is also processed into *bakasang*, a type of fermented fish product from Moluccas.

### The Processing of Inasua in Nilanese

The processing of *inasua* by the people of Kuralele Village (Nilanese) usually only uses salt (do not use coconut sap). People choose to process coconut sap into *sopi* and not use it to preserve *inasua*. In the tradition of the Nila community, *sopi* has a sacred value in life and can be used as a process of reconciliation in society. One bottle of *sopi* consumed can solve a problem in society (Pattiruhu and Therik 2020). The salt used was crushed using mortar, so that it was more easily absorbed by fish meat. Like other TNS community, fish used as raw materials for processing of *inasua* were reef fish, such as *bae* (*Lutjanus malabaricus*) and *bobara* (*Caranx melampygus*). In contrast to the Teonese, the technique used to release waters and blood from the fish body was squeeze it by hands. This technique was done to reduce the water content in the body of





**Figure 6.** Processing *inasua* in Nilanese. Fish split then remove the gills and viscera (1), salt crushed use mortar (2), smeared with salt (3), squeezed by hands (4), put in a jar (5), the jar closed and fish allowed to ferment at room temperature (6).

the fish, so that it doesn't rot easily. The salt used was approximately 30% by weight of fish. After being squeezed, the crushed salt was smeared on the surface of the fish until equally distributed and then put into a jar. *Inasua* was allowed to ferment in a jar at room temperature (Figure 6)

In Ameth (other Nilanese village), the people were processes *inasua* using iodized salt. Besides being crushed, this salt was widely sold in the market. In this area, fish that has been smeared with salt was then put into jerry cans and allowed to undergo fermentation. *Inasua* product has a taste similar to salted fish, but has a soft texture because it does not undergo the drying process.

### The Processing of *Inasua* in Seruans

In the Serua Island, the people were process *inasua* using only salt. The fish was split and then smeared with salt and left overnight in the basket to allow water and blood to leak of the fish meat. The *inasua* processing using coconut sap was never done because of the condition of this island which was rarely overgrown of coconut plants. Soil conditions which are dominated by andesite rocks (Van Bergen, Erfan, et al. 1989) are not suitable for the growth of coconut trees. The people prefer to take coconut sap to drink in the morning as a substitute for sugar tea or processed into vinegar (locally called *cuka*

*sagero*) after being allowed to fermentation for several days. People grow more cloves and oranges than other crops. After being relocated to Ceram Island, Seruans still conserve the processing of *inasua* as a tradition of the ancestor.

*Inasua* processing in Waru Village was almost the same as the Nilanese. The technique used to release water and blood from the body of a fish was squeezed it by hands, but salt smeared on fish was not crushed, so that the absorption of salt into the fish meat was rather long. After being smeared with salt, *inasua* can be processed into two products, i.e. *inasua* without vinegar and *inasua* with vinegar. *Inasua* without vinegar was put directly into a jar and then closed, while *inasua* with vinegar was added vinegar until it passes through the surface of the fish. The vinegar used was *sagero* vinegar, the product of fermented coconut sap (Figure 7)

The processing of *inasua* by the Seruans only used salt previously. The location of Waru Village, which was separated from other Seruans Villages was suspected to have caused the people of this village process *inasua* by adding fermented coconut sap. Waru village was close to the Layeni Village which process *inasua* using coconut sap. In this area, the people consider that *inasua* processing use coconut vinegar was better than coconut sap.





**Figure 7.** Processing *inasua* in Seruans. Fish split and smeared with salt (1), squeezed by hands (2), added coconut vinegar for *inasua* with vinegar (3), put in a jar and closed to ferment at room temperature for *inasua* without vinegar (4).

## CONCLUSION

*Inasua* is a traditionally fermented fish product of Teon Islands, Nila and Serua (TNS) Communities. Central Moluccas. The processing of this product was diverse in the three groups of TNS Communities. The people of Teonese usually process *inasua* using only salt and salt added to coconut sap, while the people of Nilanese using salt only. The people of Seruans usually process *inasua* using salt, but some people also process *inasua* using coconut vinegar. The people of Teonese were pressed of fish use stones, while the people of Nilanese and Seruans were squeezed of fish by hands.

## ACKNOWLEDGEMENTS

We are very grateful to the TNS Communities for providing information to support this research, i.e., Dana Ade Istia, Anttheck Tossa, Korneles Kolelsy, Yuliana Leunufna, Yendra Lakotany, Yanti Rupilu, Sammy Turkey, Philipus Kelenufna, Yafet Kolelsy, Elvis Kolelsy, Leo Wewra, Levina Litaay, Potreta

S'rua group and other friends not mentioned.

## REFERENCES

- Barling, P.M. and Foong, Y.H. (2015) 'Oily Fish, Liquid Wax Esters and Keriorrhoea-a Review', *International e-Journal of Science, Medicine and Education*, 9(1), pp. 21-25.
- Dasion, A.G.R. and Nugroho, H. (2020). 'Badu' Tradition as Local Conservation and Food Sharing System for the Poor', *Komunitas*, 12(1), pp. 118-126.
- Devika, F., Prajawati, M.I., et al. (2020) 'To'-oto, the Local Wisdom of Madurese Ethnic Families and Perceptions'. *Local Wisdom*, 12(2), pp. 79-87.
- Engelenhoven, A. (2003) Language Endangerment in Indonesia: The Incipient Obsolescence and Acute Death of Teun, Nila and Serua (Central and southwest Maluku), in: Janse M and Tol S (eds.). *Language Death and Language Maintenance: Theoretical, Practical and Descriptive Approaches*, John Benjamins Publishing Company, Amsterdam.
- Gudger, E.W. (1925) 'A New Purgative, the Oil of the "Castor Oil Fish Ruvettus"', *Boston Medical and Surgical Journal*, 192(3), pp. 107-111.
- Gudger, E.W. (1928). 'The Distribution of Ruvettus, the Oil Fish, Throughout the South Seas, as Shown by Distribution of the Peculiar Wooden Hook Used in its Capture', *The American Society of Naturalist*, 62(682), pp. 467-477.
- Hasselt, A.L., Beekman, A.A., et al. (1900). *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap*. E.J. Brill. Leiden.
- Hursepuny, J.J. Moniharapon, T, et al. (2021) 'Karakteristik Kimia dan Mikrobiologi Bakasang Jerohan Ikan Tuna Sirip Kuning (Thunnus albacares)', *Jurnal Teknologi Hasil Perikanan*, 1(2), pp. 86-99.
- Indrawasih, R. (2016) 'Pola Konsumsi Ikan oleh Masyarakat di Desa Hitumessing, Kabupaten Maluku Tengah', *Jurnal Masyarakat dan Budaya*, 18(3), pp. 339-352.
- Jansen, H.J. (1939) 'Ethnographische bijzonderheden van Enkele Ambonsche Negorijen', *Bijdragen tot de Taal-Land and Volkenkunde*, 98(1), pp. 325-368.
- Kuasa, W. A., Rianse, U., Widayati, W., Sidu, D., Abdullah, W. G., LA Zulfikar, Z. U. L. F. I. K. A. R., ... & Rianse, I. S. (2015) 'Local Wisdom of Farmers in Meeting of Local Food', *International Journal of Sustainable Tropical Agricultural Sciences*, 2(1), pp. 243-296.
- Mahulette, F., Mubarik, N.R., et al. (2018a) *Inasua*, a Fish Fermented from Teon, Nila, and Serua Islands, Moluccas. In: Sekiguchi Global Research Association (Eds). *Peace, Prosperity, and Dynamic Future: Proceeding of The 4<sup>th</sup> Asia Future Conference*. Sekiguchi Global Re-

- search Association, Seoul, 1048-1054.
- Mahulette, F., Mubarik, N.R., et al. (2018b) 'Diversity of Lactic Acid Bacteria in Inasua Fermentation', *Iranian Journal of Microbiology*, 10(5), pp. 258-265.
- Mahulette, F. (2019). Keragaman Bakteri Asam Laktat dalam Fermentasi Ikan-Inasua Dengan dan Tanpa Nira Kelapa. [dissertation], Bogor: Institut Pertanian Bogor.
- Mahulette, F., and Astuti, D.I. (2020) 'Microbial Succession and Chemical Characteristics in Fermentation of Ambonese Arrack (Sopi), Traditional Beverage from Maluku', *Biosaintifika*, 12(2), pp. 147-154.
- Mawaddahni, S. (2017) 'Filosofi Hidup Sebagai Wujud Kearifan Lokal Masyarakat Adat Kesepuhan Sinar Resmi', *Local Wisdom*, 9(1), pp. 90-102.
- Nara, S., Ijong, F., et al. (2013) 'Inasua, a Fermented Salted Fish Product from Central Moluccas', *Aquatic Science and Management*, 1(2), pp. 160-164.
- Nendissa, S.J. (2013) 'Pengaruh Penambahan *Pediococcus acidilactici* F11 sebagai Kultur Starter terhadap Kualitas Ikan Asin (Ina sua) Bae (*Lutjanus malabaricus*)', *Ekosains*, 2(1), pp. 39-46.
- Paludan-Muller, C.P., Madsen, M., et al. (2002) 'Fermentation and Microflora of Plaa-som, a Thai Fermented Fish Product Prepared with Different Salt Concentration', *International Journal of Food Microbiology*, 73, pp. 61-70.
- Papilaya, P. M., and Tuapattinaya, P. M. J. (2022) 'Problem-Based Learning dan Creative Thinking Skills Students Based on Local Wisdom in Maluku', *Al-ishlah: Jurnal Pendidikan*, 14(1), pp. 429-444.
- Pattiruhu, G. M., Therik, W. M. (2020) 'Sopi Maluku di antara Cultural Capital dan Market Sphere', *Jurnal Ilmiah Ilmu Sosial*, 6(2), pp. 104-118.
- Persulesy, C.B., Kusdiyantini, E., et al. (2020) 'Inasua: The Traditional Food Fermentation from Teon Nila Serua, Central of Maluku, Indonesia', *Journal of Ethnic Food*, 7(24), pp. 1-7.
- Sato, Y. and Tsuchiya, Y. (1969) 'Studies on the Lipid of *Ruvettus pretiosus*', *Tohoku Journal of Agricultural Research*, 20(2), pp. 89-95.
- Stubenvoll, S. (2001) Traditional Agroforestry and Ecological, Social and Economic Sustainability on Small Tropical Islands: a Dynamic Land Use System and its Potentials for Community-Based Development in Tiore and Rhum, Central Maluku. Indonesia [dissertation], Berlin: Universitat Berlin.
- Sulaiman, A. I., Chusmeru, C., & Kuncoro, B. (2019) 'The Educational Tourism (Edutourism) Development Through Community Empowerment Based on Local Wisdom and Food Security', *International Educational Research*, 2(3), pp. 102-120..
- Tabers, M. (1993) 'Toward a Better Understand of the Indigenous Languages of Southwestern Maluku', *Oceanic Linguistics*. 32(2), pp. 389-441.
- Talakua, W. (2014) 'Pendapatan dan Resiko Usaha Pengolahan Ikan Cakalang Banda di Kecamatan Banda', *Omni-Akuatika*, 13(19), pp. 53-59.
- Tiwery, S., Tiwery, D., et al. (2014) *Inasua, Tradisi Pengawetan Ikan di TNS*. Balai Pelestarian Nilai Budaya Ambon, Ambon.
- Van Bergen, M. J., Erfan, R. D, et al. (1989) 'Spatial Geochemical Variations of Arc Volcanism Around the Banda Sea', *Netherlands Journal of Sea Research*, 24(2-3), pp. 313-322.
- Velasco, D.F.B. (2015) *Characterization of Salt-Fermented Anchovy Paste from the Philippines*. Universiteit Gent. Gent.
- Wattimena, S. C., Temartenan, J. S, et al. (2021) 'The Effect of Coconut Sap Amount and Salt Texture on the Protein Content and Total Bacterial Number in Inasua', *Journal of Physics: Conference Series*, 1943(1), pp. 012064.
- Weber, M. (1913) *Die Fische der Siboga Expedition*. Leiden: E.J. Brill.