Application of Sanitation and Hygiene In Improving The Quality of Products From Shells In The Collective Business Group (Kub) of Shell Fishers In Banjar Kemuning Village, Sedati District, Sidoarjo Regency

Dwitha Nirmala¹, Wahju Tjahjaningsih¹, Endang Dewi Mashitah¹

¹Department of Marine, Faculty of Fisheries and Marine, Universitas Airlangga, Surabaya 60115 Indonesia

Abstract. The increasingly fierce competition in the sale of food products is currently encouraging people to improve the quality of sales service and food quality. The reality on the ground shows that some of the processing of food products does not use methods and methods that meet good hygiene and sanitation standards. As a result, processed food products will become unhealthy for human consumption. The Joint Business Group (KUB) of Shellfish Fishermen in Banjar Kemuning Village, Sedati District, Sidoarjo Regency seeks to improve the quality of food products from shellfish that will be sold to the community by implementing sanitation and hygiene standards in every process of processing food products from shellfish. Therefore, for the application of sanitation and hygiene standards in improving the quality of food products from shellfish in Banjar Kemuning Village, Sedati District, Sidoarjo Regency. The best approach to ensure the safety of food products from this shellfish, which is primarily in the process where the shellfish live and where the shellfish are obtained. For shellfish caught in the waters, proper handling processes related to sanitation and hygiene should be carried out, because shellfish caught in nature have a risk of bacterial contaminants and some heavy metals that are harmful to human health.

1. Introduction

Indonesia is an archipelagic country that has a very wide territorial waters both at sea and in land waters. Indonesia has approximately 17,508 islands with a sea area of more than 5.8 million km² consisting of 2.8 million km² of deep sea (Ridwan, 2013).

Shellfish is a capture fishery commodity that has important economic value. In the statistical data of the Ministry of Maritime Affairs and Fisheries in 2012 the production of blood clams, green, batik shells,
oysters, simping) in Indonesia, while in the statistical data of the Fisheries and Marine Service of Sidoarjo Regency in 2015 (Sahara, 2011).

The attraction of people in consuming feather shells is due to their high nutritional content. Many types of shellfish can be consumed and some have been cultivated and processed for food products. One of the most popular types of Anadara clams in Indonesia is the Anadara granosa blood clam. All soft body parts can be eaten, while the shell can be used as a mixture of animal feed (Ridha, 2017).

The nutritional content of shellfish is not much different from other marine biota. Shellfish contain mineral substances that are needed by the body, such as iron (Fe), phosphorus (P), flour (F), iodine (I), calcium (Ca), potassium (K), zinc (Zn), and selenium (Se). In addition, shellfish is a source of animal protein which is classified as a complete protein, because the levels of essential amino acids are high (85%-95%) and are easily digested by the body. Shellfish also contain fat-soluble vitamins and B complex (Diaman, 2016).

The food product is said to be ineligible because it contains hazardous materials, microbial contamination or food additives (BTP) whose levels exceed the maximum permitted limit (Angelina et al., 2018).

Processing shellfish in a simple automatic way has drawbacks such as not maintaining the sanitation and hygiene aspects in the processing process. Aspects of sanitation and hygiene is one that is highly considered to ensure the quality of a processed food product. Competition in the quality of food products in the current era of globalization will encourage the residents of Banjar Kemuning Sedati Village to make Home industry products to produce products that meet food safety standards and buyer satisfaction. Producing clean, healthy and safe products requires the application of sanitation and hygiene standards in the food processing unit.

Sanitation is a cleaning business activity to achieve human health and welfare. Sanitation is also defined as an effort to prevent disease by eliminating environmental factors related to the chain of disease transfer (Patty et al., 2015).

According to Widyawati (2002), hygiene is an effort to prevent the occurrence of disease that focuses on individual or human efforts along with the environment in which the person is located.

Sanitation has a similar meaning to hygiene. It's just that the difference is if hygiene focuses on human activities, if sanitation focuses on the human environment, for example, namely the availability of clean water for washing hands before and after food (Widyawati, 2002). According to WHO, sanitation is one of the efforts to control factors originating from the physical environment that will affect humans, especially things that can have a detrimental effect on physical development, health and survival.

The problem that occurs in KUB is that there is very little information about how to handle shellfish properly. Based on the Regulation of the National Standardization Agency of the Republic of Indonesia Number 6 of 2019 concerning the Conformity Assessment Scheme against Indonesian National Standards for the Food Sector. In the Regulation of the National Standardization Agency of the Republic of Indonesia above, it discusses factory inspections or production process assessments carried out on facilities, locations, designs and layouts, buildings, equipment sanitation, process room sanitation, and personal hygiene in accordance with the applicable provisions concerning food production Methods. Good Processing.

However, the community is currently still not aware of the procedures that have been implemented by the Government. One of the sanitation and hygiene requirements for shellfish is that the content of contaminating microorganisms such as E.Coli and some heavy metals such as Cadmium (Cd), Mercury (Hg), Lead (Pb) must be below the predetermined threshold. From the information above, it can be concluded that Ms. KUB does not know about how to handle it so that there is no deterioration in the quality of shellfish products, does not know information about the sanitation system and also diversification of catch products.
In dealing with problems that exist in Banjar Kemuning Village, the proposer will provide solutions by conducting training in handling shellfish from the catching process to the post-catch process in accordance with existing provisions. As for how to increase business income at KUB, training in processing fishery products is carried out by providing training on diversification of processed fishery products made from shellfish.

2. Material and methods

The implementation of this Community Service Program at the Joint Business Group for Shellfish Fishermen is to implement solutions in post-harvest handling, which include:

2.1. Raw Material Handling

Efforts made in post-harvest handling of shellfish raw materials are by providing training to the Joint Business Group for Shellfish Fishermen. The training provided includes shellfish washing and the process of raising shellfish under controlled conditions. The shells that have been harvested are collected and cleaned of mud/dirt. The clams that are still attached to each other are separated with a knife by cutting the sticking fibers. After the shells are clean, they are put into a tub or container filled with seawater and flowing. This treatment is carried out for 12-24 hours with the aim that the shellfish are free from dirt/mud and avoid shellfish from the possibility of being polluted by the environmental conditions of the aquaculture waters. Shellfish that have undergone treatment or better known as stem depuration are ready to be consumed or ready to be sold. Depuration in closed circulation, there must be filtration before returning to the shell. Scallops that have been depurated can also be boiled to facilitate the activity of peeling the shells, followed by peeling the shells or separating the meat and shells of green mussels.

2.2. Shellfish processing

Processing of shellfish that have undergone a depuration process. The beginning of the Joint Business Group with Shellfish Fishermen to process a shellfish into a product is usually done by boiling it first. Significant heavy metal reduction is also affected by heat during the boiling process. The role of temperature in the adsorption process is very important to affect the reaction rate. The main factors of boiling that need to be considered are sanitation and hygiene, so that they can produce products of good quality and guaranteed safety. As for the tools and materials used to make shellfish products so that sanitation and hygiene are maintained, it is necessary to provide training to the Joint Business Group for Shellfish Fishermen in the process of diversifying processed shellfish products.

2.3. Packaging of shellfish products

Methods of data analysis using descriptive and qualitative methods. Descriptive analysis method by describing the data collected to improve understanding related to the problems studied and examine them. The qualitative method is divided into three parts, namely the selection and simplification of data from various literature, presenting the data, and drawing conclusions.

3. Result and discussion

The results that have been achieved in the Community Partnership Program (PKM) service are:

The results obtained from the FGD are that your fishing group has a commitment to develop their business in the fishery sector, seeing the results from the discussion that 100% of the members understand that processing shellfish into various products is very important, of course from the fishermen group and KUB women Banjar Kemuning Village, Sedati to improve the economy in Banjar Kemuning Village, Sedati. During this pandemic, although local villagers are worried about the arrival of the Fisheries and Marine
Faculty team, meetings can take place with core members of the shellfish fishing group and the chairman of the Joint Business Group.

The shellfish fishermen group and the chairman of the Joint Business Group in Banjar Kemuning Village can produce not only chips from sweet potatoes but also fishery products in the form of shellfish. Shellfish products from Banjar kemuning Village which can be processed in the form of shellfish crackers. This shellfish product also has advantages, one of which is that it has an economical price, is easy to find and tastes good. Scallops contain very high levels of animal protein and almost 100 percent of their essential amino acids. Shellfish is one of the seafood that is familiar to the community, shellfish also have very good benefits for health, and have good nutrition for the body.

This product diversification training activity in community service aims to provide insight into alternatives to processed shellfish products. However, because at this time of community service, we had a covid disaster, which in the end we were not allowed to conduct practical training directly on making shredded shellfish at the Faculty of Fisheries and Marine Affairs together with the shellfish fishermen group and the chairman of the Joint Business Group. The solution to this covid disaster is our community service team.

4. Conclusion

This Community Service activity has been carried out in the form of workshops and training on making functional food, vacuum packaging technology and Hygiene Sanitation, has been running well and smoothly, this community service program has completed the activities carried out. The shellfish fishermen group and the chairman of the Joint Business Group have been fully committed to implementing product development in Banjar Kemuning Village, Sedati so that their economy can improve.

5. Reference

[1] Ridwan L. 2013. Jurnal Ilmiah Platax. Vol. 1-2, januari 2013.
[2] Sahara 2011. Institut Pertanian Bogor p 35.
[3] Ridha N 2017. Universitas Diponegoro p 26.
[4] Diaman 2016. DIV Health Analyst Study Program, Faculty of Nursing and Health, University of Muhammadiyah Semarang p 30.
[5] Angelina R. Alvin C, Devi L, Warsono E K. 2018.. Jurnal Agroteknologi Vol. 12 No. 02 (2018).
[6] Patt 2015. Median Journal of Fishery Products Technology. Vo. 3, No. 2, Agustus 2015.
[7] Widyawati, Retno, Yuliarsih 2002. Hygiene and Sanitation. Indonesia: Grasindo p 33.
[8] WHO. 2005. Sanitation and Hygiene Promotion. Accessed from http://www.who.int/water_sanitation_health/hygiene/sanhygpromo.pdf.
[9] Badan Standardisasi Nasional (BSN). 2019. Regulation of the National Standardization Body of the Republic of Indonesia Nomor 6 Tahun 2019

6. Acknowledgement

Acknowledgement to the Chairperson of the PKK, Banjar Kemuning Sedati Village for giving permission for the location of community service to collect data by conducting counseling and questionnaires.