



## Implementation Of Good Manufacturing Practices (Gmp) In Marine Product Processing At Kampung Kelembak

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### **Abstract**

*The community service activity in Kampung Kelembak aimed to enhance students' skills and understanding through hands-on community engagement while addressing the primary challenges faced by the local community. Using the Service Learning (SL) methodology, the initiative focused on training participants in shrimp dim sum production. The activity yielded significant outcomes: participants successfully applied Good Manufacturing Practices (GMP) in shrimp dim sum production; 100% of participants reported this was their first experience making shrimp dim sum; and 83% expressed interest in producing shrimp dim sum for commercial purposes.*

**Keywords:** Service Learning, Good Manufacturing Practices, dim sum, shrimp.

### **INTRODUCTION**

Quality assurance and food safety in the food processing process is a process that should not be underestimated. This activity is one form of responsibility of food industry players in being responsible for the food products produced. Safe and hygienic food conditions can indicate the quality level of a food product. One way to do this in food processing is by implementing Good Manufacturing Practices (GMP). Several GMPs are crucial to follow in the food industry. These practices ensure food is produced safely and hygienically and meets the necessary quality standards. Some of the most essential GMP requirements in food manufacturing (Paredes 2024) include: Quality Management, Sanitation and Hygiene, Pest Control, Suitable Facility Location, Equipment, Raw Materials, Product Labeling, Storage and Transportation, Personnel, Validation and Verification, Documentation and Record-Keeping, Inspection and Auditing. Specifically, the government has shown special attention regarding GMP, Government Regulation Number 86 of 2019 concerning Food Safety. Article 28 Every person who produces and trades food must meet food safety and food quality standards. The food safety standards referred to in the regulation include:

#### 1) Food Sanitation

- a. Avoidance of the use of materials that can threaten Food Safety along the Food Chain;
- b. Fulfillment of Food Contamination requirements;
- c. Process control along the Food Chain;





- d. Implementation of material traceability system;
- e. Prevention of reduction or loss of Food Nutritional content;
- f. Using materials that are not harmful to health; and
- g. The food produced meets the requirements of Food Safety and Food Quality.

2) Additional Materials

Every food product produced does not use food additives that exceed the maximum threshold set; and does not use prohibited food additives.

3) Genetically Engineered Food Products

- a. Safety assessment of Genetically Engineered Food Products by:
- b. The Genetic Engineering Method of Food used follows a standard process that can be scientifically accounted for its validity;
- c. The nutritional content of Genetically Engineered Food Products must be substantially equivalent to the nutritional content of Food that is not Genetically Engineered Food Products;
- d. The content of toxic compounds, anti-nutritional, and allergens in Genetically Engineered Food Products must be substantially equivalent to Food that is not Genetically Engineered Food Products;
- e. The protein encoded by the transferred gene is not allergenic; and
- f. The method of destruction used if there is a deviation.

4) Food Irradiation

The use of food irradiation has been licensed for the use of radiation sources.

5) 5) Food Packaging

- a. Food production in packaging must use Food Packaging materials that are not harmful to human health.
- b. Not using Food Packaging materials that contain prohibited Food Contact Substances that can release contaminants that are harmful to human health;
- c. Not opening the final food packaging to be repackaged and traded.
- d. Fulfilling the requirements of Food packaging procedures by:
  - 1. Protecting and maintaining Food Quality from external influences;
  - 2. Resistant to treatment during processing, Food Transportation, and Food Distribution;
  - 3. Protecting Food from contamination, preventing damage, and allowing good labeling; and
  - 4. Food Packaging materials are stored and handled in hygienic conditions and separately from raw materials and final products.





In 2021, the government, through the Food and Drug Supervisory Agency of the Republic of Indonesia, issued Peraturan Badan Pengawas Obat dan Makanan Nomor 22 Tahun 2021 tentang Tata Cara Penerbitan Izin Penerapan Cara Produksi Pangan Olahan yang Baik (CPPOB). Thus, this regulation is a general reference for: 1) Food processing industry in planning, building and operating its company in producing and providing products that are safe and suitable for human consumption; 2) Food processing industry supervisors in regulating and developing the food processing industry; and 3) Supervisors of quality and safety of processed food in conducting audits. GMP covers all aspects of production from the starting materials, premises, and equipment to the training and personal hygiene of staff. Detailed written procedures are essential for each process that could affect the quality of the finished product. There must be systems to provide documented proof that correct procedures are consistently followed at each step in the manufacturing process - every time a product is made, (ispe 2024).

The implementation of CPPOB is needed to: a) Prevent contamination of processed food from biological, chemical/physical contamination that can disrupt, harm and endanger human health; b) Kill or prevent the growth of pathogenic microorganisms and reduce the number of other unwanted microorganisms; and c) Control production through the selection of raw materials, use of auxiliary materials, use of other food materials, use of Food Additives, processing, packaging, and storage/transportation. Meanwhile, the objectives of implementing CPPOB are: 1) To produce quality processed food, safe for consumption and in accordance with consumer demands; 2) To encourage the food processing industry to be responsible for the quality and safety of the products produced; 3) To increase the competitiveness of the food processing industry; and 4) To increase the productivity and efficiency of the food processing industry (Peraturan BPOM Nomor 22 tahun 2021 n.d.).

In the food industry, the application of GMP starts from the process of receiving raw materials until the product is ready to be distributed and consumed. Good sanitation can prevent the entry of microbes during the food processing process. Fish is a food source that is easily rotten, so its processing needs to be done quickly and precisely. The principle of fish processing is basically aimed at protecting fish from rotting and damage and extending its shelf life. (Arini and Subekti 2019)

GMP implementation is carried out by assessing several aspects related to the processing process (Suhardi, et al. 2020). GMP protects companies and consumers from negative incidents related to food safety (Tarlengco 2024). GMP is a working guideline that will explain what the food production process looks like. The process in question must be able to produce food that is safe, of good quality, and of course suitable for consumption by the public (Sucofindo 2023). Meanwhile, according to (Surya, et al. 2024) argues that "the application of GMP in the food





industry is a requirement to produce products that are safe for consumption". As one of the natural tourist destinations in Batam, Kampung Kelembak has several problems, among the not yet maximum processing of fish caught by fishermen villages that can be used as snacks or by tourists. During this time the catch of fish is sold to collectors or to the market, so that the selling value is only enough for everyday life.

## COMMUNITY OVERVIEW

Kampung Kembak is located in Sambau Village, Nongsa District, Batam City, Riau Islands Province with an area of +/- 6 square hectares. Kampung Kembak is an area that demographically has swampy land and plains directly adjacent to the sea which is inhabited by approximately 36 houses, there are 60 families with a population of 130 people. Residents of Kampung Kelembak generally work as fishermen, have a pretty comfortable and simple place to stay. The economic conditions of the residents of Kampung Kelembak are classified as middle lower. The name "Kelembak" is taken from the name of the name of the butterfly which residents around are called Kelembak. under the guidance Aliansi Rehabilitasi Bumi (ARB) This village was developed into a community -based tourism as an independent tourism village. In 2023 kampung Kelembak receive help Penerangan Jalan Umum Tenaga Surya (PJU-TS) from Kementerian Energi dan Sumber Daya Mineral (ESDM) Republik Indonesia.



Figure 1: Residents of Kampung Kelembak, 2024

## METHODOLOGY

This community service activity is based on the principle of active involvement and community participation in all stages of activities, while the implementation of community service with the following stages:

- 1) Identification of problems and needs





- 2) The initial stage of community service is to identify the problems and needs of the community by involving them in the process of determining priorities.
- 3) Program planning
- 4) After identifying the problem, it is necessary to describe the appropriate community service program and provide effective solutions.
- 5) Program implementation
- 6) The community service program is carried out by involving various related parties to achieve the stated goals.
- 7) 4) Evaluation and improvement
- 8) After the program runs, an evaluation is carried out to assess its impact and effectiveness. The evaluation results are used to improve programs in the future.

This community service activity is carried out with a service learning methodology (SL), which is an educational approach that involves lecturers and students in providing services to the community as part of learning, with the main purpose is to improve students' skills and understanding through real experience and provide solutions to community problems in Kampung Kelembak.



Figure 2. Introduce equipment and materials, 2024

## **SUSTAINABLE RESULT AND POTENSIAL**

### **Sustainable Result**

In the implementation of community service activities in the humidity held on Friday, November 1, 2024 with a total of 24 participants. By using the SL method each participant tries and practices the manufacture shrimp dimsum.





Implementation of the practice of making shrimp dimsum is guided directly by 3 students of Batam Tourism Polytechnic, with the following recipe composition:

1. Shrimp 36%
2. Surimi 27%
3. Water 15%
4. Pati tapioca 11.34%
5. Palm oil 6.66%
6. Carrot 3%
7. Mushroom 0.5%
8. Leeks 0.2%
9. Salt 0.1%
10. sugar 0.1%
11. White pepper 0.05%
12. Mononatrium L-Glutamate 0.05%



Figure 3. Making process shrimp dimsum, 2024



## Potensial

After completing this community service activity, it was obtained that 100 % stated that it was the first time to make shrimp dimsum, and 83 % plan and express an interest in producing shrimp dimsum for sale.

## CONCLUSION

From the results of this community service activity, it can be concluded as follows:

1. Participants can implement GMP shrimp dimsum
2. 100 % of the participants stated that it was the first time to make shrimp dimsum
3. 83 % plan and express an interest in producing shrimp dimsum for sale.

## SUGGESTION

In this community service activity only carried out the practice of manufacture shrimp dimsum, and not practiced making dimsum sauce. So that in the future the practice of making dimsum sauce.

## REFERENCES

- Arini, and Sri Subekti. 2019. "Proses Pengalengan Ikan Lemuru (*Sardinella longiceps*) di CV. Pasific Harvest ." *Journal of Marine and Coastal Science Vol 8 No 2* 56-65.
- ispe. 2024. *Good Manufacturing Practice (GMP) Resources*. Januari 13. Accessed Januari 13, 2025. <https://ispe.org/initiatives/regulatory-resources/gmp>.
- Paredes, Rob. 2024. <https://safetyculture.com>. Oktober 30. Accessed Januari 13, 2025. <https://safetyculture.com/topics/gmp/gmp-in-food-industry/>.
- Peraturan BPOM Nomor 22 tahun 2021. n.d. "Peraturan Badan Pengawas Obat dan Makanan Nomor 22 Tahun 2021 tentang Tata Cara Penerbitan Izin Penerapan Cara Produksi Pangan Olahan yang Baik."
- Sucofindo. 2023. *Good Manufacturing Practices? Know the Scope of GMP*. Maret 2. Accessed Januari 13, 2025. <https://www.sucofindo.co.id/en/articles/general/consulting-services-en-22/good-manufacturing-practices-know-the-scope-of-gmp/>.
- Suhardi, Bambang, Riska Permana Sari, and Pringgo. 2020. "Perbaikan Proses Produksi pada IKM Tahu Sari Murni Mojosoongo Menggunakan Metode Good Manufacturing Practice (GMP) dan Work Improvement In Small Enterprise (WISE)." *Jurnal INTECH Teknik Industri Universitas Serang Raya Vol 6 No 1* 88-98.





Surya, Dwi Agus Ade, Ita Zuraida, Bagus Fajar Pamungkas, Irman Irawan, and Kusumaningrum, Indrati. 2024. "Penerapan Good Manufacturing Practices (GMP) Pada Proses Pembekuan Ikan Layur di CV. Sinar Harapan Berau." *Jambura Fish Processing Journal Vol. 6 No. 1* 1-14.

Tarlengco, Jona. 2024. <https://safetyculture.com>. Juli 24. Accessed Januari 13, 2025. <https://safetyculture.com/topics/gmp/>.

