

Increasing Nila Crispy Production Capacity in Bobosan Village, West Purwokerto District, Banyumas Regency

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Abstract

The existence of an upstream fisheries industry in the form of fish farming, the downstream industry in the form of fish processing has enormous potential to be developed. One of the objectives of fish processing is to provide added value to fishery products and as a solution if there is overproduction of fishery products. One of the Crispy Tilapia producers in Bobosan Village that continues to actively process processed fish products is SARMILA SMEs. As time goes by, market demand is getting higher and these SMEs are increasingly overwhelmed because their products are in great demand by the community. In addition to productivity problems, there are weaknesses in business management aspects, especially supply chain management and raw material inventory. The approach offered to overcome these problems was to provide business management training, supply chain management training, and procurement and training on the use of efficient and technologically appropriate production process equipment, such as high-pressure cookers, spinners, and large-capacity pans. With this method, there was an increase in production capacity to 40% or equivalent to 24.5 kg of products or 30.8 kg of raw materials each week from the previous capacity of 17.5 kg of products or 22 kg of raw materials per week.

Keywords: *Keywords: Production Capacity, Downstream Industry, Value Added*

1. INTRODUCTION

Banyumas Regency has very promising fisheries potential (BPS, 2016). This is supported by the abundance of water resources whose quality and discharge are very supportive for fish farming (Nastain, 2006). Bobosan Village, North Purwokerto Subdistrict is one of the main producers of freshwater fish in Banyumas Regency. With the upstream fisheries industry in the form of fish farming, the downstream industry in the form of fish processing has enormous potential to be developed. The development of fishery product processing potential is very suitable to be developed in Bobosan Village because it is supported by several reasons, among others: (1) fish processing raw materials are abundantly available, (2) fish processing is able to extend the expiration period, (3) able to absorb abundant cultured fish products, (4) market demand for processed fish is quite high.

One of the processed fish products in Banyumas Regency that is quite popular with the public is Tilapia fish crackers (Nila Crispy). Crispy Tilapia is a food/snack product that is unique and highly differentiated because it is made from fresh tilapia with very high levels of animal protein. The only Crispy Tilapia producer in Bobosan Village that continues to actively process processed fish products is IRT SARMILA which is located in Bobosan Village, RT 09 RW 03, North Purwokerto District, Banyumas Regency. IRT SARMILA was established in 2012 and is managed by Srinarsih, S.Pi.

As time goes by, the market demand is getting higher and IRT SARMILA is overwhelmed because its products are in great demand by the public. IRT SARMILA's Nila Crispy marketing is quite extensive, namely through souvenir shops / kiosks around Purwokerto and directly to consumers, both off-line and on-line. IRT SARMILA has been very overwhelmed in meeting market demand due to low productivity and limited production capacity. Despite the abundant demand,

there is no shortage of fresh tilapia raw materials for the fish processing process because Bobosan Village is a freshwater production center. Tilapia, besides being a fish with high cultivation productivity, The fish is also easy to grow and has high environmental resistance. The main problem in this case is the low productivity and limited production capacity when processing. The limited production capacity is because the production process is still done manually and the number of production tools is limited, and the existing supporting facilities (already owned) tend to be less efficient.

The problems faced by partners are not in terms of marketing as faced by MSMEs/IRTs in general. The problem faced is precisely the lack of production capacity. This happens because the tools owned are still very simple and manual. Reviews of the main problems faced by partners include :

- 1. Production/Technical Aspect Issues:** (a) Preparations for fish splitting and cleaning are not effective and efficient. Preparations for the production process in the form of weeding (cleaning dirt) and splitting still rely on human labor (b) Limited process support tools.
- 2. Product storage is inadequate and inappropriate:** The production process to get the ideal crispness is done with 2 frying passes. This condition forces to provide more space and containers. In this case, a storage area for semi-finished and finished products is needed. Currently, the place (container) owned is inadequate so that it can reduce the quality of the products produced.
- 3. The laundry room is inadequate and inappropriate :** The elevation of the washing room is not standardized, causing dirty water to return to the clean water washing area. This is due to the poor drainage system of the fish raw material washing/cleaning room.
- 4. Quality Aspect Issues:** The frying process is done manually, so the level of maturity varies. The results of the second frying are ready to be packaged often still carry a lot of oil.
- 5. Problems in management aspects :** Low knowledge of partners about bookkeeping administration and business management, Managers and employees do not have the ability and standard skills to process quality and hygienic fish / fishery products, Low inventory management and supply chain.

2. METHOD

In this PKM program, in addition to efforts to increase production capacity, it is carried out through a debottlenecking process (decomposing the source of capacity determinants in the form of splitting and cleaning fish by procuring an effective and efficient fish splitting and cleaning machine, namely a small fish cutter). With this machine, there will be a 533% change in productivity (from 1.5 kg/hour to 8 kg/hour). In addition to the introduction of equipment, partners are also made efforts to build intangible assets in the form of knowledge transfer and training on management science, introduction of simple technology-based tools, and motivation to grow and develop. Some aspects of science and technology transfer to partners are not only through training, but also through workshops (practice), namely when introducing diversification of processed fish products. This assistance is needed to improve the ability of partners to be able to improve the quality and quantity of human resources for business managers and employees.

The implementation procedure/stage to overcome partner problems is the following steps:

- 1. Activity Preparation and Planning**
 - Coordination of the PKM Team with the Bobosan Village government
 - Determination of partners
 - Identification and analysis of problems faced by partners
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- Determination of priority problems that will be addressed in PKM activities
 - Determination of participants
 - Selection of the type of training agreed upon to address the priority problems to be addressed
 - Determining the expertise and resources needed (resource persons) in the training / counseling activities to be carried out
2. Production/technical aspects of the problem: In this production or technical aspect, the main solution is the grant method and the transfer of appropriate technology.
 3. Management Aspect Problems In this aspect of management, the main solution is to use training methods, introductions and workshops.
 4. Mentoring, Monitoring and Evaluation of Training Performance. After the program is completed, according to the plan, partners are expected to utilize the equipment optimally. It is expected that the business will grow at least 50% per year.
 5. Partner Participation and Contribution. In the implementation of this PKM, the partners in this program, apart from being the object of the program, are also the subjects, because the partners are the real business actors. Partners act as participants and actively participate in training and counseling activities.

3. RESULT AND DISCUSSION

To achieve the desired goals in this applied research, several activities were carried out. These activities were carried out not only to increase capacity and productivity, but also to ensure business management and process hygiene, including business sustainability. These activities are as follows:

1. **Business Management and Administration Training.** IRT Sarmila has understood and implemented business management and administration by maximizing the use of existing facilities and infrastructure, implementing good teamwork, being responsible for the tasks carried out, and being able to control other management aspects such as financial bookkeeping by being able to provide evidence of transactions that have been used.
2. **Training on Supply Chain Management in the Fisheries Processing Industry.** The existence of a supply chain is expected to maximize the added value obtained through improved finance, improved marketing management, increased revenue, improved productivity, increased consumer responsiveness, standardization and production performance (Green, et al, 2014).
3. **Increased capacity and efficiency.** Efforts in increasing capacity and efficiency, Nila Crispy SMEs already have efficient and appropriate equipment, namely:
 - Has 1 set of high pressure stove equipment which is useful so that the frying process can be quickly produced.
 - Has 1 set of Spinner which serves to absorb oil after frying, so that less oil content of the product.
 - Has 1 set of large frying pan that is used to fry Crispy Tilapia with high capacity, so that production will be more in one time frying.



Figure 1. Community Service Activities

4. CONCLUSION

Based on the results above, it can be concluded that the impact of training and procurement of process equipment is able to increase understanding and knowledge related to business management and administration, increase understanding of supply chain management in the fish processing industry, and increase understanding of safe and hygienic processing of fishery products. In addition to the direct impact caused by training and procurement of equipment is an increase in production capacity to 40% or equivalent to 24.5 kg of product or 30.8 kg of raw materials every week from the previous capacity of 17.5 kg of product or 22 kg of raw materials per week. With this increase, there is process efficiency and an increase in business margins that can improve the welfare of freshwater fish processing SMEs in Banyumas Regency, especially in Bobosan Village.

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REFERENCES

- Agarwal, A., Shankar, R., & Tiwari, M. K. (2006). Modeling the metrics of lean, agile and leagile supply chain: An ANP-based approach. *European Journal of Operational Research*, 173(1), 211-225. doi: 10.1016/j.ejor.2004.12.005
- Ahi, P., & Searcy, C. (2013). A comparative literature analysis of definitions for green and sustainable supply chain management. *Journal of Cleaner Production*, 52, 329-341.
- Al-Aomar, R., & Weriakat, D. (2012). *A framework for a green and lean supply chain: A construction project application*. Paper presented at the International Conference on Industrial Engineering and Operations Management Istanbul.
- BPS Banyumas (2016) Produksi ikan di kabupaten Banyumas. Retrived Maret 5, 2024 <https://banyumaskab.bps.go.id/indicator/56/90/1/produksi-ikan-di-kabupaten-banyumas.html>
- Green, K. W., Inman, R. A., Birou, L. M., & Whitten, D. (2014). Total JIT (T-JIT) and its impact on supply chain competency and organizational performance. *International Journal of Production Economics*, 147, 125-135. doi: 10.1016/j.ijpe.2013.08.026

Nastain, N., & Hardini, P. (2006). Potensi Sumberdaya Mata Air Alami Kompleks Awar-awar Sumampir Untuk Perencanaan Sumber Air Bersih Pedesaan Potency of Water Spring Resources at Awar-awar Complex, Sumampir, for Designing Rural Clean Water Resources. *Jurnal Pembangunan Pedesaan*, 5(3), 119319.