

Blue Economy Concept in Extension Waste of Fish Baung Into Fish Oil
in Sungai Paku Village Kampar Kiri, Kampar Regency,
Riau Province

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Abstract

Service to the public entitled "Guidance processing of fish waste baung into fish oil in Sei Paku Village, Kampar Kiri, Kampar District, Riau Province "has been carried out for 4 months in order to: 1) provide understanding and insight to the participants extension that baung fish waste can be processed into fish oil. 2) Giving briefing to the participants on the techniques of fish waste processing into fish oil. 3) To motivate participants to conduct business based processed fish waste products to supplement the family income. 4) Maintaining the quality and quantity of fish oil products produced in order to penetrate the wider market. 5) Provide new jobs. 6) Realize *blue economy*. *Blue Economy* is an economic concept that will be developed in Sei Paku to the challenging of environmentally destructive economic system, the damage caused by the presence of fish processing waste baung released into the environment. Interest extension with the motto of *Blue Economy* is no waste is wasted, meaning that all fishery products including waste can be utilized to improve the welfare of the community. Method of activities undertaken to achieve the goal of community service are lectures, discussions, consultations and practical demonstrations directly manufacture baung fish waste into fish oil. Counseling is done four stages starting with preparation for the month of August 2016, the implementation in September 2016, the establishment of a business group in October 2016, evaluation and monitoring in November 2016. As a result, at the end of public education can already take advantage of the technology is taught and business groups has been formed to start a business based on fish waste to increase the family income at the same time realizing the *BlueEconomy*

Keywords: BlueEconomy, evaluation, monitoring, family income

Introduction

In the area of Riau province, especially in the village of Sei Paku Kampar, now catches fish in public waters tends to decrease while the production of fish farming baung inclined upward. This situation is very worrying one hand but on the other hand is very encouraging. Fears have proven that today has been a decline in fish production in public waters baung so the price is high, otherwise the abundance of fish production, aquaculture baung its price is low, so it is necessary to prevent fish processing price is relatively higher.

Today, of the various results of the processing activities that have been done obtained information that the rest of the processing of waste in the form of a comparatively much and if not handled properly will cause environmental pollution. To overcome these problems required a technological touch to save the fish oil processing waste are abundant. Development of technology in waste processing fishery products is a most logical step in an effort to reduce the environmental impact of waste as well as to provide added value to the community. Additionally, it will expand community peroduksi fish oil as a source of public revenue. Baung fish fats

that humans need fatty acids are saturated and unsaturated. Unsaturated fatty acids are necessary for mankind especially infants are EPA and DHA. These fatty acids are important to educate the brain in children under five, helping growth, and prevent the onset of various diseases.

In the village of Sei Nails are small industrial activities in the field of processed anchovies, but the condition of the small industry has not shown significant progress, or in other words are still going nowhere, this is because the products do not penetrate the wider market and rarely encountered undertakings another alternative effort to increase income, especially for the women.

Small industry which is currently still cultivated household scale with limited production and have not been utilizing waste processing results. However, if this small industry guidance, especially in the development of the product quality, production is believed to be increasing. Besides the quality of the products is still low, financial to support the increase in production is also limited. Efforts to overcome these problems is indispensable coaching business management, so that the income of fishermen in particular the women can be increased and not only depend on the activity of the husband in a fishing business. In determining the selection of alternative business besides catching and aquaculture, required major benchmarks are considerations against the needs and desires of fishermen, because nelayanlah actually know and feel what they need. In addition, the availability of natural resources owned, human resources, market demand, and future opportunities should also be considered carefully.

Blue economy is a new concept that aims to generate economic growth of marine and fisheries sector, while ensuring resource sustainability and the environment. If the development of marine and fisheries sector is aligned with approach, *the blue economy* the development of industrialization in the marine and fisheries sector will take place on an ongoing basis. Approach to industrialization development of marine and fisheries through the *blue economy* is a model of economic development approach that no longer rely on economic development based on the exploitation of natural resources. However, a huge leap in development, leaving economic practice that emphasizes short-term profits and drive low-carbon economy (*low carbon economy*). "Model approach is *blue economy* expected to answer the interdependence between the economy and the ecosystem as well as the negative impact of economic activities, including climate change and global pamanasan" (Ministry of Maritime Affairs and Fisheries, 2012). Saefuddin (2014) suggested that the *Blue Economy* requires the application of knowledge and technology support. Implementation in the field of Maritime Affairs and Fisheries requires appropriate innovation, which is not only able to use natural resources in a sustainable manner, but more real innovations in production systems. Furthermore Ilma (2014) suggested that the main core of the *Blue Economy* is pro ecosystem activities. All fishing activity waste must be in a condition that does not pollute the ground and open waters. Therefore, there needs to be science and technology in the use of waste.

Blue Economy is an economic concept that will be developed in Sungai Paku to the challenging of economic systems which damage the environment or exploiting of Natural Resources. Baung fish farming activities that already exist can reduce the arrests that occur in nature. As anticipated abundance of production need to be established and nurtured a business group baung fish waste processing into fish oil because this business is quite promising. The first of these products needed by the people in Riau province and surrounding areas. The two prices are relatively high in the market.

Based on the description analysis of the situation, identified the problems faced by women, especially wives of fishermen in the use of leisure time and must increase family income. Therefore, efforts to increase revenue keluarga can be done through training fish waste processing into fish oil. Thus the problem can be formulated as follows:

1. Lack of understanding of the trainees about the processing of fish waste into fish oil.
2. Lack of knowledge of participants in the techniques of fish waste processing into fish oil.
3. Lack of knowledge about the added value of fish processing waste.

The purpose of this activity is to:

1. provide understanding and insight to the participants regarding the processing technology of fish waste into fish oil.
2. Giving knowledge about the methods and processing techniques limbahmenjadi fish oil.
3. Giving knowledge that the fish waste still has economic value.

The expected benefits of this project are: To

1. motivate participants to conduct business based processed fish waste products to increase their family income.
2. Maintaining the quality and quantity of waste produced refined products in order to penetrate the wider market.

Method of Application

The method of implementing the training in the implementation of fish oil products manufacture base barbahan fish waste to increase the income of the people in the village of Sei Paku, includes several stages as follows:

1. Observation

Observation was conducted to determine the state of society workshop objectives and to determine the availability of raw materials fish waste for training activities.

2. workshop

This was held for one day to the local communities with the following material:

- a. Methods and techniques of utilization or processing of fish waste into fish oil.

- b. Material aspects of the management and analysis of business benefits of fish oil.
- c. Prospects marketing of fish oil products inside and outside the village of Sei Paku.

Plan activities that will be undertaken to achieve the intended target is in stages as follows:

Preparation

The preparation stage is the stage which is necessary to collect information relating to the implementation of the basics of counseling and prepare everything necessary in the implementation of the extension.

The preparation phase consists of:

1. Discussions with members of executive education and determining the distribution of work among team members.
2. Contacting other agencies involved in the implementation of the extension.
3. Preparing the equipment and materials needed in the implementation of the extension.

Implementation Stageactivities

This stage is a stagerequired to implement the extension. This phase consists of:

1. The first stage (Month August 2016)
At this stage of the survey carried out to determine the potential of fish waste in the village Sei Paku.
2. Stage two (Month September 2016)
At this stage, the stage of practice / training according to teoriyang given previously.
3. Phase three (Month October 2016)
At this stage, the establishment of an integrated business group with cluster method, which makes a business network between women fishermen fish processors, fish waste, and other refined products marketing groups.
4. The fourth stage (Month November 2016)
This stage is the stage of monitoring and evaluation and guidance to business groups in order to be consistent in developing a business. Data monitoring and evaluation results are discussed along with business groups, and further discussion of results data were processed and compiled into a report.

Schedule

Broadly speaking, the implementation schedule of training baung fish waste processing into fish oil is as follows:

Table 1. The implementation schedule for 4 months (August - November 2016)

No	Activity	Method	Points
1	- Preparation	Survey	Sei Paku
2	- Methods and fish waste utilization technique baung into fish oil	Lecture	Hallmeeting
	- fish oil marketing Prospects inside and outside the district. Kampar	Discussion	community fish farmers and processors
3	- Training the manufacture of fish oil from fish waste baung	Demonstration	meeting hall community fish farmers and processors
4	- Establishment of Businesses	Discussions	meeting hall community fish farmers and processors
	1. kelompok raw material provider		
	2. Group fish oil processing		
	3. Group of oil marketing fish		
5	- Monitoring and Evaluation	discussion	meeting hall community fish farmers and processors

Results and Discussion

community objectives of this training are the women / mothers whose husbands worked as fishermen baung catcher and fish farmers. Consideration of the targeted communities elections are due to the state of the women who generally do not work and only serves to help sell the fish or aquaculture at harvest time. Another consideration of the background for the need for this activity is that women have a large enough free time before help market the fish. Given that in general their husbands fishermen, the women have a range of free time outside of work sufficiently large after the household.

Utilization of the time span is usually not effective because it is mostly used to watch television while waiting for her husband to come. Therefore, the training activities are expected to fill their spare time with productive activities and help improve the family economy. In addition, in this case will also be no division of labor in the household, the husband role in capturing and maintaining fish baung and mothers play a role in the processing of fish waste into fish oil baung.

Another consideration underlying the importance of this activity is the women can deliver and develop their creativity process fish waste into a productive business. In addition, consideration of the educational background of the women were largely limited to the basic education makes them very difficult to get a job based on the education level. For that reason, this training activity forward to it are expected to provide and create new jobs for local women.

The magnitude of the availability of and easy reach of the acquisition of raw materials are more valuable for the community to develop the business of processing

fish waste into fish oil. Given the added value, by the end of this training the women can directly apply the provisions that they have acquired during the training period and can share their knowledge and insights gained to others. In addition, they are also expected to develop this business as a sustainable business so as to increase the family income.

Before the activities carried out, we start by conducting a preliminary survey and insights of local fishing communities and local government officials as well as plus of information on potential areas of Marine and Fisheries Agency Kampar regency. Results of interviews with fishing communities and government officials show that indeed most fishermen here more dominant in traditional carapengolahan to utilize the fish and aquaculture such as drying and salting. The reason they are already accustomed to using the traditional method due to the development of new products from waste fish to realize *blue economy* they do not understand.

Their extension and a demo of fish oil-based processing is very helpful libah fish fishermen especially women. Counseling is done with a lecture and demonstration. Lectures conducted to convey general information about how fish oil processing bermanfaat for improve the welfare of the community. In this extension materials also conducted an evaluation process (evaluation of the effect) in the form of a question of control with the aim to see the attention and interest of participants, especially women regarding this matter.

Outcomes of the training activities of processing fish oil made from fish waste is in the form of fish oil products. However, given the lack of understanding and the ability of the public about the methods and techniques of processing fish oil, generated further from the training of human resources who have the ability to apply the methods and techniques of processing fish oil. In addition, the community is expected to establish a group of fish oil processing business. Through groups such fish oil processing business community are expected to increase their income at the same time realizing the *Blue Economy*.

Obstacles

- a. The majority of participants are counseling women who are not accustomed to process fish waste into value-added products, so they still need skills to fish waste can be processed into fish oil.
- b. The majority of participants this extension still need information and education.

Framework Troubleshooting

Various aforementioned potential will be realized by solving the problem as follows:

1. Ensuring that the woman in the village of Sei Paku can know and understand the techniques baung fish waste processing into fish oil.
2. To demonstrate that catches which are not commercial value or processing waste can be processed into fish oil.

3. Convincing women in the village of Sei Paku about the benefits of fish oil along with the added value (economic value).

Actual Troubleshooting

In solving the problems existing in the village of Sei Paku Kampar Regency related to knowledge-based fish oil processing fish waste, having conducted a preliminary evaluation of the condition of the participants, it will be the carrying out of such guidance and training so that at the end of the activity will be obtained the result of their increased knowledge and skills of women on the processing of fish oil and its economic value.

Incentives

That became the driving factor in service activities are:

1. Lately, fish oil is becoming more popular among the public, especially school children to improve their health and intelligence.
2. The curiosity of the participants greatly to the counseling given material.
3. Their enthusiasm and active participation of the participants were all women in following this extension activities.
4. Participants are already aware of the economic value if the fish waste is processed into fish oil.

Blue Economy

Through the guidance of waste processing technology into fish oil and the quality of guidance, it is expected that the product can penetrate a wider marketing. The development of small businesses will have an impact on local employment and income generation family economy. Counseling has been done is a waste treatment technology baung fish into fish oil, product quality coaching, and technical guidance entrepreneurship. The concept of *blue economy* (blue economy) is continuing to streamline natural resources. Moreover, no waste and does not cause pollution. Waste used as raw material for other products, so that waste products and generate more revenue. Another impact of the *blue economy* is to double people's income and the expansion of employment. For the people who implement this concept, can double people's income due to use natural resources more efficiently.

Blue economy requires the application of knowledge and technology support. Its implementation in the field of fisheries requires effective innovation, which is not only able to utilize the natural resources sustainably, but also more evident in the production system innovation. The role of universities to be more proactive in encouraging research and community service as an instrument to deliver economic value of innovation in the concept of *blue economy* (Saefuddin, 2014). *Blue economy* aims to boost economic growth, social welfare and environmental sustainability (Hakim, 2013).

Concept *Blue economy* is most appropriate in the village of Sei Paku reasons: 1) waste fish processing baung not pollute the environment. 2) Sustainability, the waste generated is the remainder of farmed fish baung and does not deplete natural resources. 3) Utilize the economic potential that exists in fish waste baung. 4) Increase the value added to fish waste baung. 5) Increase the diversification of products in the form of fish oil. 6) Promote clean production systems means that no waste is wasted. Ilma (2014) suggested that the *blue economy* is an economic development concept right. This sector can create jobs and improve the welfare of the community. Principle *blue economy* in an efficient use of raw materials, leaving no waste, provide a broad social impact, sustainable production systems and do not damage the environment. Kusbandrijo (2014) stated that the concept *blue economy* suitable to be applied in the fishing villages of Indonesia to improve the well-being and reduce the poverty gap.

Further discussion about the economic benefits of processing the fish waste into fish oil. Fish waste raw materials needed for production once as much as 100 kg. The price of fish waste Rp. 0.00 since this waste is waste products of fish processing such as dried fish and smoked fish. If the waste is dumped into the environment can contaminate the soil, water, and air around it. Therefore it needs to be processed into value-added products economically while eliminating the pollution caused by fish waste. Rani and Cahyasari (2015) argued that industrialization in the *blue economy* are encouraged to increase the added value, strengthening the industry, the main commodity-based, region and system management, sustainable development, and encourage the use and management of resources effectively. Waste that can still be utilized as a value-added products from a production process of fisheries is fish oil. means *Blue economy* integrated in the fish processing industry. Saefuddin (2014) stated that the *blue economy* can be a policy of color in the form of programs of economic and community development.

Work fish waste processing into fish oil starting from boiling fish waste to fish oil filtering results. Cost source of energy (fuel) for boiling Rp. 30,000. 100 kg of fish waste obtained 25 kg of fish oil with the price of Rp. 50,000 per kg. Means all production gained additional income of Rp. 1.250.000 - Rp. 30,000 = Rp. 1.22 million. Varga *et al* (2013) stated that the raw material is low economic value can be converted into a high economic value by using technology innovation. Furthermore Erbavia (2016) suggested that the *blue economy* can be devoted to the business of marine and fisheries while creating a healthy environment.

Conclusion

From the information activities concerning the processing of fish waste into fish oil baung can be summarized as follows:

1. Increased knowledge of the participants, especially in the manufacture of fish oil-based fish waste.
2. Participants already know about the *blue economy*.

3. There are still difficulties for the participants to realize the manufacture of fish oil because of the unavailability of marketing venues.

Recommendations

1. There should be more intensive counseling to reproduce clear information regarding processing, packaging, and marketing of fish oil.
2. Follow up with the business community to start a household scale fish oil as an effort to increase family income.

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