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Development Of Fish Canning Industry On Household Scale With Hermetic Technology Application At Prigi, Trenggalek

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Abstract: Prigi fishery port of Prigi, Trenggalek Regency is the second largest fishing port in the south of Java island after cilacap. The results of the catch fish from this region, has great potential for the welfare of the people around. For that transfer fish processing technology, the local fish processing community in order to optimally prosper the local community. The objective of this research is to develop the household-scale canning industry with hermetic application technology, on the target group of Prigi Fishing Association (APIG), which has traditionally been unhygienic fish pengempengan and do not have long period of consumption. The methodology of this research is carried out in the following way: (i) isolation, identification, (ii) collection, selection of catch fish from Banyu Biru harbor (Malang), Blitar, Trenggalek, Tulungagung and Pacitan). (ii), limited testing of canned fish processing. The results showed that economic empowerment of fish processing community through application of hermetic fish canning technology at APIG has provided economical value of their fish processing business because fish canning result has higher economic value added and longer consumption period.

KEYWORDS: Home, Industry, Canning, Fish, Hermetic, Prigi.

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I. INTRODUCTION

In order to accelerate the development of marine and fisheries sector, it is necessary to have a grand strategy based on integrated, efficient, effective and quality areas with Minapolitan development model concept. The objective is to increase the productivity and extension of the benefits of natural resources to surrounding communities and the poor in general Java Island, especially East Java in the south is an island directly adjacent to the Indian Ocean, where an ocean that has the potential of fish resources are very potential to be used as raw materials for fish processing industry. Prigi Beach Trenggalek regency is one of the beaches in South Java, which has a large Nusantara Harbor with potential fish catches to support the Fish Processing Industry for the availability of national food based on minapolitan catch. As a port of the archipelago, Prigi is the largest port in East Java, so that various fishing vessels with adequate fishing technology, making it possible that in this Prigi archipelago fishery harbor environment, various fish processing businesses are developed, especially for the economic empowerment of fishing communities in Prigi.

The amount of fish caught from the fishing port of Prigi can be seen in several quotations as follows:
1. Priyono, the captain of the vessel arriving at the Fish Auction Site (TPI) of the Fishery Port of Nusantara Prigi, (Kompas, Wednesday, 29 // 2013), said he had just brought a ton of tuna searched at sea during the past two days. "It's a tuna season, the fish is banya ksekali, it's overflowing, we get overwhelmed by it until my hands are swollen and broken," he said.
2. The results of research (Nurjayanti, http://karya-ilmiah.um.ac.id/index.php/sejarah/ category/view/20878/0) show that the fishing technology used by fishermen in Prigi Beach is getting more modern. The fishermen community in Prigi Beach started to leave traditional fishing gear and turned into modern fisherman. So that post-capture fish processing must also be applied new technology that can guarantee the sustainable and more optimal profit by using the processing technology to the fish catches of the fisherman, along with the modernization of fishing gear in the area.

Various fish processing managed by local fishermen community that developed in Prigi fishery harbor environment, in general there are still many that done traditionally.Although so far there have been some who have become the flagship of local communities, such as smoked fish, pindang fish, fish meal and others. The pattern of development of fish processing business that mostly still traditional economically lacks optimal

results for the economic development of the community in the Prigi harbor environment. In addition, there are still many food products that are produced traditionally, not guaranteed quality for consumption, both from aspects of hygiene and from aspects of consumption of food products from the fish processing.

The Local Government of Trenggalek Regency, cq, Fisheries Department of Trenggalek Regency, has been doing guidance and empowerment of traditional fish processing community in Prigi to improve the welfare of the local community. Fish processing business that developed rapidly in Prigi beach environment during this time, is a traditional pengindangan. To facilitate the empowerment of the fish processing community, even the local government has developed the pindang fish processing organization, in the form of Pindang Fish Processing Society in Prigi, abbreviated as APIG, which has previously been an association, has even developed in the form of legal entity association of pindang passed by Kemenkumham. (Dinas Perikanan, Trenggalek, 2017).

The problems faced by local governments in empowering these fish processing communities are:

1. During the community group incorporated in the Fish Pemindang Association, producing fish in their respective home environment without adequate business permit either from the environmental health aspect or the official permission of the fish-breeding business.
2. Fishing processing has a high environmental impact on freshwater pollution in the soil caused by traditional fish processing waste, causing the demands of local people to be regulated in their business.
3. Local government has been providing the business location of the fish-sellers in the fish processing center which is far from the population on the condition that hygienic inspection is done, it can occupy the ward building that is provided.
4. Since the wake of the ward, in 2015 until now in 2017, the ward has not been used because of the lack of ability of the group of aggregators incorporated in APIG, a target of empowerment in the hygiene pengindangan. However, production changes from traditional pengindangan to traditional hygiene, not feasible from the business aspect because the cost of production becomes higher, the network pasarpun become more expensive. So that should be targeted at different market segments but not able to penetrate the intended market. Finally up to 2 years since the establishment of the ward, it can not be used for hygienic shade production.
5. The weaknesses of the traditional way of indulgence that lasted so far are:

a. Quality of products that can not be guaranteed hygienic,
b. Very short consumption duration of about two to three days, so the economic value is very short.
c. The way out, if the fish is not sold to maintain the economic value of the processors and marketers of pindang fish, add salt to pindangnya fish into salted fish in order to be more durable with the selling value economically decreased.
d. In addition, it also adds added formalin above the threshold, to make it more durable, so its economic value in the market can be maintained longer, even though the effort is endangering the health of the pindang fish consumers.

To overcome the above problems, in this research is done action research, by way of development of domestic fish canning industry with hermetic application technology. With the development of industrialization of this fish canning, then:

1. Can be produced more hygienic fish processing results.
2. Can be produced fish processing products that have a longer consumption period, even up to 1 or 2 years.
3. Can be produced fish processing products with higher economic value.
4. The period of consumption of long fish processing results, allowing the canned fish processing business, can reach a wider market.
5. Through the business of this fish canning industry, the group of processors and marketers of canned fish, is no longer highly dependent on the fishing season in running their business.

The advantages of the development of industrialization of canned household scale, among others, can be delivered as follows:

a. Does not require high capital,
b. Can be done by APIG group members who are generally micro and small entrepreneurs at home.
c. It can be implemented by APIG members and local fishing communities who are generally economically powerless.

The introduction of hermetic application technology to the community in the environment, with the application of environmentally friendly technology will be more able to reach the middle class fish processing and marketer fish community, thus enabling businesses with the application of this technology can be accepted by the local community.

On the other hand, although the catch fishery in Pantai Prigi as the second largest Nusantara Fishery Port on the southern coast of Java, but until now there is still no fish processing industry by means of canning which in more modern and hygienic, the result of bias becomes a big potential in the provision of food based fish that can

reach other areas as a provider of fish feeding, both for the community environment in particular and for the provision of national food in general.

Based on the above description it can be said that Prigi Beach has great potential for the development of fish canning industry in an effort to empower the people's economy as well as in the provision of national food, given that fish are processed by means of this canning, has a longer economic value and more hygienic value high in comparison with other types of fish processing.

1.2. Research Problems

The permasahan in this research is as follows:

"How is the development of household scale canning industry through application of hermetic technology at fish processing center in Bengkorok, Prigi, Watulimo Subdistrict, Trenggalek Regency?"

1.3. Research purposes

The objectives in this study are as follows:

"To describe and analyze the development of domestic fish canning industry through the application of hermetic technology, at the fish processing center of Bengkorok, Prigi, Watulimo Subdistrict, Trenggalek Regency."

II. LITERATURE REVIEW

2.1. Economic Empowerment of Minapolitan Fishing-Based Fishermen

As explained by David Corten (1986), "Community Development (AsianExperience)", it is explained that: Community Based Development, able to develop socio-culturally compatible, where the social process of society will be developed more productively and economically able to develop itself into a social fabric efficient, "effective and economical for the development of community prosperity." (Budi Rianto, 2013) The economic activities carried out by small fishermen occur in fishery and fishing port areas, where derived economic activities as a linkage of the capture fisheries growing and developing in fishing and fishing ports. These conditions will certainly be very helpful and facilitate in improving government performance in increasing the income and welfare of fishermen in the areas mentioned. Therefore, a comprehensive and integrated approach to business management is needed and directed. Creation of business and investment climate in areas with large and specific fish resources potential by spurring the growth of related supporting industries, which in turn will accelerate the increasing contribution of fisheries sub-sector in the national economy.

2.2. Industrialization of Fish Processing

Type of fishery business is divided into three, among others: Enterprises through fishing, business through cultivation and fish processing business. Fish Processing is a fishery business carried out in a fishery business system which is included in the fish processing group. Any person conducting a fishery business in the field of processing, and marketing of fish in the fishery management territory of the Republic of Indonesia shall have SIUP. As stated by Budi Rianto (2008) as follows: "The government regulates, encourages, and / or conducts fisheries research and development to produce the knowledge and technology needed in the development of fishery business to be more effective, efficient, economical, competitive, and friendly environment, and appreciate the wisdom of local traditions / cultures ".

a. Fish Processing Unit (UPI), in the implementation of Fish Processing Industry, the fish processing business as a fish processing unit that must have some general requirements such as a. UPI must have a food safety management system that includes Good Manufacturing Practices (GMP), Standard Sanitation Operating Procedures (SSOP) and Hazard Analysis Critical Control Points (HACCP) and implement them;

b. UPI only accepts raw materials from certified fish farming units in good fish farming, fishing vessels and fishing vessels certified by good fish handling methods, or certified collectors / suppliers of good handling methods;

c. UPI should pay attention to certain types of fish that are prohibited or require certain requirements that are marketed for human consumption, for example: poisonous fish originating from Tetraodontidae family, Molidae, Diodontidae, Canthigasteridae; and fishery products containing biotoxins such as reef fish containing ciguatera toxins and biomass-containing toxins such as: Paralytic Shellfish Poisoning (PSP), Diarrhea Shellfish Poisining (DSP), Amnesic ShellfishPoisining (ASP), Neurotic Shellfish Poisining (NSP).

d. UPI is prohibited from using additional materials that are not permitted in accordance with the provisions of laws and regulations;

e. Use of chemicals such as pesticides, fumigants, disinfectants, and detergents should be under the control of officers who know the hazards of their use in accordance with the laws and regulations;

f. UPI must have a laboratory that can be used to support the quality control of fishery products independently (owncheck);

g. The UPI handling the frozen product shall have freezing means capable of rapidly lowering the temperature to a central temperature of -18 ° C; and freezing storage (cold storage) that can keep product temperature -18 0C or lower.
h. UPI handling fresh products should have a cooling means that is able to maintain the product temperature at the melting point of ice.

2.3. Fish Canning Industry
Canning is a food processing where the product is packed in a can with the aim to increase the shelf life of the product. Increased storability occurs because in processing using high temperatures and air-tight packaging system. Food Canning Mechanism in principle can be done in two ways:
a. Food is packed first in hermetic, then heated.
b. Preheated food is freshly packed (packed) in a hermetic way both after cold and hot. The use of cold packing is often referred to as aseptic canning. Some "fish canning step" (Akbarsyah, 2006), namely: 1. Air Discharge / Exhausting, 2. Sealing Cover, 3. Sterilization (Processing) 4. Cooling.
The main advantages of using cans as food containers are:
a. Cans can keep the food in it. Food contained in a hermetically sealed container may be guarded against contamination by microbes, insects, or other foreign materials that may cause decay or deviation of appearance and taste.
b. Cans can also keep food on unwanted water content changes.
c. Cans can keep food on the absorption of oxygen, other gases, odors, and radioactive particles in the atmosphere.
d. For color foods that are sensitive to chemical photo reactions, cans can guard against light.

III. RESEARCH METHODS

This research method is done by action research, in order to give real research result for the development of fish canning industry in Prigi, Identification of fish canning industry development with application of hermetic technology, isolation, identification and collection of canned fish resources in the precise area. The study continued with the application of limited hermetic fish processing technology in market-oriented Prigi, with home-based industry-oriented industry standards and certified by certification bodies authorized.

This research design using action research model such as participant action research, action research diagnosis and empirical action research (Kemmis & Taggart, 1988). This research method, believed to be high scientific content, this type of research is selected in accordance with research objectives that produce the development of fish cannery industry at home in Prigi, Trenggalek regency, which can be a reliable model in improving economic empowerment of fishermen community, through fish processing industry in household scale in the era of regional autonomy in Indonesia.

In this research also used method of focus discussion group. This method is very good for digging data from the officers of the Fisheries Department of Trenggalek Regency and Fishermen Community, especially joined in Prigi Fish Puddle Association which became the object of economic empowerment through Industrialization of Fish Canning in Prigi Beach, Trenggalek Regency. The researchers hope with this method, they can express their opinions openly and in groups. In addition, in the implementation of the focus discussion group, the researcher should be able to present the problem question in a way that is understandable and appropriate to the respondent.

1. Object.

The object of this research is fishermen fish processing community group in Prigi Coast, especially joined in Fish Processing Society in Prigi. : Found fish processing model developed in community and development of canning in hermetic way. Found production model: 1. Washing, 2. Sorting and Grading, 3. Peeling / Cutting / sizing, 4. Blanching, 5. Charging, 6.Exhausting, 7.Sealing, 8.Heating Process, 9.Freeze, 10. Labeling , 11. Storage, 12. Marketing

2. Data Retrieval Techniques
Techniques used to collect data is by focus group discussion, observation and documentation.
The focus of group discussions supported by interview guidelines was used to identify the interests and needs of fish processing communities and local communities, as well as the potential of fish canning management in the area of research objects.
Observations are used to observe the conditions and potentials that can be developed through technological applications that are developed and used as a means of enhancing the economic empowerment of fishermen

groups fish processor, with the application of hermetic technology in fish canning business within the area of the research.

Documentation method is used to collect data related to data stored in the documents of the Office of Fisheries of Trenggalek Regency and related agencies to support the research process.

3. Sampling Technique

In determining the samples to dig the data in this need assessment, the apparatus of the community of pengayang pengayang processors directly related to the process of economic empowerment of pindang fish processing community incorporated in the Fish Pemindang Association in Prigi, Trenggalek Regency. For that will start from key person, Department of Fisheries of Trenggalek Regency Government and snow ball based on recommendation from key person. The other apparatus and fish processing community, determined some people to be actively involved in the forum discussion group, as the methods specified in this study. In addition, as a control variable on the actions of the fish processing actors and the management of fishermen's empowerment of fish farming, also involved some members of the Pemindang Ikan Association within the area of research objects in the discussion group forum to be able to obtain a comprehensive picture of the model of Fish Canning Industry for the fish processing community in the neighborhood of the District of Trenggalek.

With this method, it is expected to produce prototype model of domestic fish canning industry, which can be implemented in developing for other fish processing community who are interested to produce canned fish in Prigi Trenggalek Coastal Environment.

4. Data Analysis Technique.

Data analysis was done by using approach, that is qualitative approach. Qualitative data were analyzed based on logical thinking.

From the object of this study, conducted a descriptive analysis to obtain the conclusion of the performance model of domestic fish canning fish farming industry developed in the area of the study. The analysis technique used in this research is interactive model analysis as developed by Miles and Huberman (2014) consisting of 3 (three) analysis components, ie (i) data reduction, (ii) data presentation, and (iii) conclusion. Data Reduction is the first step of analysis to find the data that is most relevant to the research problem. The data are then displayed in the form of tables having a certain frequency distribution with the intention to be easily understood which will then be analyzed based on relevant social theories.

IV. RESEARCH RESULT

4.1.General Image of Research Area

Geographically, Trenggalek Regency is located between the coordinates of 111 ° 24-112 ° 11 'East Longitude and 7 ° 53'-8 ° 34' South Latitude. Trenggalek Regency has an area of 126,140 ha, where 2/3 of its land area is mountainous, while the sea area 4 miles from the mainland is 711,68 km. The boundary of Trenggalek Regency is bordered by:

- North: Tulungagungdan and Ponorogo regency
- East: Tulungagung District
- South: Ocean Indonesia
- West: Pacitan and Ponorogo districts.

Demographically, the population of 2014 is 687,477 inhabitants consisting of 50.17% women and 49.83% of men with population density of 545 persons / Km² and population growth rate of 0.22% of the population in 2015 of 838,721 people consisting of 50.49% women and 49.51% man. (Bappeda Trenggalek, 2016)

Geographically, from 14 sub-districts, there are only 4 sub-districts whose majority of villages are Trenggalek, Pogalan, Tugu and Durenan. While the other 10 sub-districts the majority of villages in the form of mountains. The regency of Trenggalek Regency consists of 126,140 ha or 1,261,40 km2 of land area and 711,17 km2 of sea management area. The land area consisted of 12,111 Ha (9.6%) and Dryland (48.868 Ha) (38.74%), State Forest (60.936 Ha (48.31%), Plantation 1.979 Ha (1.57%), Others 2,246 Ha (1.78%). Geographical characteristics in Kabupaten Trenggalek can be divided into several regional typologies. Mountain area is located in the north and central districts of Bendungan District, Pule District, Kecamatan Kampak and Dongko District. The coastal area is located in Watulimo District, Munjungan District and Panggul District.

Economically, the structure, the whole community is classified into very poor communities: 10.664, Poor: 32,008, Almost Poor: 14,734 with total amount: 57,406 (Source: BPS Kabupaten Trenggalek) Trenggalek Regency as the territory bordering the sea, also has a dispersed archipelago in the South Region of Trenggalek Regency. The number of islands in the region of Trenggalek Regency is 58 islands, the whole is still uninhabited. The outermost islands of Tenggenggekek regency are Panikan Island and Sekel Island which is not yet widely known. Potentially as a potential marine tourism area, attracted many foreign tourists. While the total

area of the sea (Exclusive Economic Zone) ± 35,558 km2, including 58 small islands are uninhabited. (Fisheries Department of Trenggalek Regency, 2016)

4.2. Potential of Fisheries in Trenggalek Regency

The coastal area of Trenggalek Regency consists of three administrative areas in three (3) subdistricts, namely: Watulimo Subdistrict (Prigi Coast), Munjungan Subdistrict and Panggul District. Among the three districts, Trenggalek has the largest fishing port after Cilacap on the southern coast of Java, which is Prigi Beach.

Development of fishery potential began to be realized with the construction of Fishery Port of Nusantara (PPN) in Prigi Beach in hopes to alleviate the poverty of local fishermen. VAT on the coast of Prigi Coast in the future will be developed into Fisheries Port of Samudera (PPS) which is supported by the development of the South Cross Road (JLS).

The number of fisheries households in 2014 recorded 5,384 households consisting of 3,812 marine fisheries and 1,572 inland fisheries households. Marine fishery households are located in 3 sub-districts namely Panggul, Munjungan and Watulimo. Based on the condition of Trenggalek Regency area located on the south coast of East Java with its coastal area, Trenggalek Regency has the potential to be developed into a minapolitan area based on both capture fishery and aquaculture fishery. Potential of aquaculture fishery that can be developed in KabupatenTrenggalek is the cultivation of tilapia and catfish in Sumurup Village Bendungan District as the center of minapolitan activity and catfish farming in Sambirejo Village Trenggalek Subdistrict as hinterland area. (Source: Department of Marine Affairs and Fisheries of Trenggalek Regency, 2014).

In an effort to develop the fish canning industry in Trenggalek Regency, as the coast bordering the Indian Ocean, which is the South East Sea of East Java holds very abundant sea products, among the peaks of mountains that surround the Prigi Beach, Watulimo Subdistrict, Trenggalek Regency, East Java, hundreds million rupiah flows daily. The coastline around Prigi Beach is approximately 3 km to the east of Prigi Beach, there is also Karanggongso Beach, the famous white sand beach 1.5 km.

Tabel 4.2: Fish Catch Mainstay at Pantai Prigi

Jenis Ikan **Tangkap** **Bulan**	**Kembung Kg/Rp**	**Lemuru Kg/Rp**	**Tongkol Krai Kg/Rp**	**Tuna Madidihang Kg/Rp**
Januari	4.208/48.602.400	62.139/242.342.100	1.253/12.968.550	13.455/193.752.000
Pebruari	2.937/43.687.875	46.162/290.820.600	37.746/337.826.700	17.016/254.389.200
Maret	2.167/32.505.000	--	25.797/209.600.625	8.761/119.368.625
April	3.731/57.084.300	3.087/9.261.000	1.852.838/11.024.386.100	24.509/329.646.050
Mei	3.441/44.044.800	9.498/37.992.000	434.314/3.561.374.800	34.382/539.797.400
Juni	2.908/34.169.000	32.378/123.036.400	1.031.240/7.218.680.000	32.445/895.482.000
Juli	3.352/34.190.400	1.550/5.308.750	860.299/7.549.123.725	18.677/314.240.525
Agustus	9.438/95.087.850	58.662/77.727.150	2.484.738/11.864.623.950	15.948/534.258.000
September	1.894/21.402.200	312.519/593.786.100	4.861.865/14.342.501.750	18.967/260.322.075
Oktober	2.565/30.267.000	326.138/546.281.150	2.932.493/8.650.854.350	13.919/196.953.850
Nopember	1.418/14.640.850	1.174.817/3.113.265.050	2.767.923/8.995.749.750	3.219/45.066.000
Desember	8.111/111.729.025	57.974/172.472.650	1.386/9.702.000	3.788/51.327.400
Total	46.170/567.410.700	2.084.924/5.212.292.950	17.291.892/73.777.392.300	205.086/3.734.603.125

Sumber: DKP Prop. Jatim, 2014

Tabel 4.3: Production of Fishery Products of South Java, around Trenggalek

No.	**Districk**	**Sea**	**Water**	**Amount**
1.	Pacitan	7.987,6	335,08	8.322,6
2.	Trenggalek	36.550,2	17,9	36.568,1

3.	Tulungagung	3.524,8	1.000,4	4.525,2
4.	Blitar	1.537,3	260,2	1,797,5
5.	Malang	10.566,6	382,7	10.949,3

Sumber: DKP Prop. Jatim, 2014

4.3. Implementation of Household Fish Canning Industry Development

The main activities of ikant canning industry development are as follows:

4.3.1. Application of Industrial Technology Fishing canning with fish canning machine, on 150 square meters of building space provided by the Prigi Fishing Association (APIG) in Trenggalek District Government, in this case the Fisheries Service, accompanied by training on the executing staff from the fisherman's representative as well as from APIG, who will work together with the Program Implementing Team from Hang Tuah University Surabaya. Besides also dissemination and dissemination program, as well as training especially on APIG members and the staff of PT. Samudera Jaya Lestari who will operate the fish canning industry in intention.

4.3.2. Technical training for small scale fish canning industry development:

a) Techniques and processes of making canned fish with certain quality standards permitted to be marketed by authorized bodies.

b) The guidance of the management of the trademark to the Dinas Kesehatan or the Department of Trade.

c) Empowerment of community organizations related to the fish canning business, in collaboration with Prigi Fish Distributors Association, to empower its members in the fish canning business, in Prigi.

d) Development of cooperation with the government agency of Trenggalek Regency related to the development effort of fish canning industry in Prigi.

4.4. Fish Canning Preparation

4.4.1 Canning Machine Making.

After reviewing the willingness of the fish as a source of raw materials canned fish, in addition that is prepared in the first year is the manufacture of engine seamer, the manufacture of this seamer engine, oriented to be used as a can closing machine can manually, thus requiring manpower to handle the cover the can. Seamer engines are made with technology that allows to be used for fish processing communities in households. With the hope of development of fish canning industry in Prigi Coast, it can absorb more manpower and can empower the fish processing community in the local area. So that the development of fish processing industry in Prigi society, in the future developed domestic fish canning industry and can produce in quality standard which can be guaranteed by a team with supervision both from internal organization and from external organization.

4.4.1.1.Making Seamer

Making this seamer, technically, can be described as follows:

a. Requires 750 wat power.

b. To facilitate the provision of electricity installed in the engine inventer, so enough with a one-hap electricity.

c. Engine weight is approximately 30 Kilo gram so it is easy to move from one place to another.

d. The machine is not so large that it does not require a large place for the home-scale entrepreneur or home Industry in the SME group.

4.4.1.2. Boiler Machine Making

a. Boiler making uses a pipeline system to get maximum heat.

b. Use of Boiler is done with a maximum pressure of 4 bar, with the intention to be able to provide a strong pressure on Autoclaf to soften fish spines in cans.

c. The pipeline system to Autoclaf , used to provide a maximum pressure of 0.4 bar, with a temperature of approximately 114-116℃, for 115 minutes.

4.4.1.3. Making Autoclave Machine

a. Making Autoclaf, using hermetically cooking system.

b. Autoclave is designed to be able to cook fish in can with air pressure of 0.4 bar and cooking for 115 minutes.

c. The autoclave is designed to hold as many as 100 cans, with one cook.

4.4.2 Training of Canned Fishing.

Training of canned fish in collaboration with Mitra, conducted at Prigi Beach of Trenggalek Regency, training process start from giving material theory about canning of fish economic benefit from business aspect and importance of quality assurance of production for consumer safety in production of nutritious food for society with fish production cans. As already mentioned in the training program, the excess of canned fish is Fish in hygienic production with production process using Hermetis technology application, that is the process of cooking fish by the way in cook together with cans in closed condition. So fish in cans are not easily polluted by bacteria from the wild because it is tightly closed.

The economic value of fish in cans can be extended can be 1 to 2 years can still be consumed with healthy. Thus, because the packaging in the cans, tend to be more resistant when sent in the broader distribution of the

market, even abroad. The long economic life of the fish in the can, enabling extensive marketing, so that it can reach a variety of fish consumer communities in the cans.

Research on the application of fish canning industry with the application of Hermetic technology in fish processing center of Bengkorok, before done in doing first observation through identification of various problems exist in fish processing community at fish processing center in Bengkorok. The next step is introduction of fish canning processing by application of hermetic technology to the processed fish processing group.

The purpose of the introduction of the fish-canning hermetic technology is to provide knowledge and understanding of the increased production and quality standards of the products produced, both in terms of quality and duration of the economic benefits of the fish, through the use of cannery production process machines.

From the survey results in the environment of fish processing center bengkorok, which allows for the development of fish canning industry with the application of Hermetic technology is in the new building fish processing ward which by the local government in this case has been prepared by the Department of Fisheries Government of Trenggalek Regency, there are 4 units of buildings put up. However, in this trial and training, conducted in ward 1, owned by Mr. Suhadi, as chairman of PPIG.

4.4.3 Experiment on Making Canned Fish at Bengkorok Prigi

The experiment of fish-making in cans, conducted in collaboration with the Department of Fisheries (DKP) Trenggalek District Government, with the target group is the fish processing community involved in this fish canning trial is the Association of Prigi Fish Pemindang (PPIG) or known as APIG.

To achieve the targeted action research expected the training was conducted in one of the 150 sq m buildings used for canning activities ranging from fish cleaning to fish cooking, with the following tools: Mini Vertical Boiler, Cutting Table, Filling Fish Table , Exhaus Bos Mini, Filling Sauce Table, Seamer Machine, Cleaning Table, Mini Autoclave + Basket, Sauce Header and Exhaus Fan.

V. CLOSING

5.1 Conclusions

1. For the development of domestic fish canning industry as well as to fulfill domestic market, based on survey of fish catches in Pantai Prigi is sufficient, so it is possible to establish fish farming industry at the Prigi household.
2. The empowerment of traditional pindang fish entrepreneurs to the domestic fish canning fishery allows, the improvement of pindang fish processing economy, because the added value from the production of canned fish both from economic value added aspect and consumption period of canned fish become 1-2 year, enabling market reach which is wider.
3. From the technical aspect of hermetic fish processing technology transformation in canned fish production, continuous facilitation is needed to the production system of certain quality standard and get the authorization from the authorized institution.
4. The design of boiler engine with heater from gas stove to produce heat and high pressure in cooking canned fish in autoclave and seamer with 700 watt electricity, as the main equipment of fish canning that has been produced, made for the production capacity of canning once cook to about 100 cans, while the combustion is enough by using a gas stove.

5.2. Suggestion.

1. In an effort to achieve maximum results in an effort to empower the fish processing community of pindang to domestic canning canning industry, it can be done in more ways starting from the transformation of canning technology in hermetic focus on Prigi Fish Pemindang Group, first.
2. Continuous supervision and supervision is needed in the transfer of technology to this fish processing group, in order to master the application of hermetic technology to be fully realized and able to produce independently.
3. Must be followed up with a program of community service to the process of transferring fish canning technology hermetically to the fish pemindang community groups intended to be efficient and effective and beneficial by the fish processing group.
4. Continuous improvement needs for various series of fish canning production machines, in order to produce canned fish more efficiently so as to provide more benefits for the fish canning industry empowerers through this fish canning industrialization program.

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