

# Analysis Of Human Resources Skill To GMP (Good Manufacturing Practice) In The Fishery Processing Groups In Makassar City

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**Abstract—** Human Resources in the field of processing fishery have to have good skills about good manufacturing Practice (GMP). GMP is about how they do the selection of raw materials, handling, processing , selection of additives and chemicals, packaging, storage and distribution, in order to produce quality food products and safe to consume. This research aims to analyse the level of human resource's skill. The sampling method used in this research is nonprobability. Samples were taken using the Slovin formula with a 10% accuracy, 87 of 654 people are take as samples. The research location is the city of Makassar chosen based on the consideration that in Makassar there are groups of fishery processing. The Data collected includes HR skills. Data analysis uses a combination of quantitative and qualitative. The results showed that the skills of respondents to the origin of raw materials reached 73%, the quality of raw materials reaches 85%, raw material selection reaches 79%, washing raw materials reaches 59%, raw material weeding reach 59%, washing the raw materials to second stage reaches 59%, the slice reaches 72%, raw material handling reaches 63%, workers reach 71%, equipment reaches 75%, legal additional materials reach 48.7%, illegal additional materials reach 49.4%, packaging material reaches 77%, Product weighing reaches 74%, information on packaging reaches 73%, storage reaches 81%, storage administration reaches 78%, transportation means reach 73%, the procedure of distribution reaches 72%. The highest level is the skill of raw material quality while the lowest level is legal additional materials in HR skill analysis toward GMP in Makassar fishery group.

**Keywords—** skills, fishery processing group, good manufacturing Practice

## I. INTRODUCTION

Makassar City has the potential of fisheries that can be managed optimally. The potential fishing of Makassar city are 18,000 tons, the cultivation of brackish water fish are 538 tons, and 128 fishery processing units with processed products are 292 tons.

Makassar City is center of the marketing of various kinds of agricultural products, fisheries, and farms either based on raw or processed goods. Seeing the prospect is quite good, some fisherman's wives and housewives in Makassar city took the initiative to make a group taking part in the process of processing fisheries, with aim to help the family economy and improve the living standards of the group members [7].

Food quality and safety cannot be separated while talking about fishery products. In an effort to improve the quality assurance and food safety of Fishery products, Directorate General of Processing and marketing of fishery products (P2HP), Ministry of Marine Affairs and Fisheries (KKP) introduced the implementation of Good Manufacturing Practices [14].

Makassar City through the Fisheries and Agriculture Office build 64 groups of household-scale fishery processing which produce a wide variety of products including fishballs, shredded fish, Indonesian fish cake, dried fish, nugget fish and fish crackers. Human resources are valuable assets in the groups. The groups success in achieving their objective are determined by competency of the human resources. Human Resources in the field of processing fishery have to possess good knowledge, attitude

and skills to the application of GMP, how they do the selection of raw materials, handling, Processing, selection of additives and chemicals, packaging, storage and distribution.

[5] Skill is an application of knowledge so that the skill level of a person relates to the level of knowledge. The skills referred to this study are the skills of good manufacturing practices. Consisting of selection of raw materials, handling, processing, additives and chemicals, packaging, storage and distribution.

In the field of fishery processing, the increase in working efficiency of GMP is one of the important problems. However, the efficiency of work depends on their skills. Thereby in order to improve the efficiency of work skill level should be evaluated [3].

Authors are interested to examine the level of human resources skills on GMP (Good Manufacturing Process) in the processing activities and marketing of fishery products in Makassar City. This research is considered necessary to get an overview of the skill level of processing group and marketing of fishery products toward GMP. The output of this research is expected to be an input material for achieving the objective of the group.

## II. METHODOLOGY

This research was conducted in Makassar. This type of research is survey with a descriptive approach to analysis. The population are fishermen and farmers guided by Department of Makassar Fishery. The population was 64 groups, of which every group consisted of 8-20 people with total population of 654 people. A non probability sampling was used on sampling method. Samples were taken using the Slovin formula with a 10% accuracy limit so that 87 samples were taken out of 654 people. The methods and techniques for collecting data in this study are divided into primary data obtained through field observations, in-depth interview and focus group discussion. Secondary Data obtained through literature search/libraries, reports on the implementation of the results of activities which have the same topic, the results of previous research and other relevant research.

## III. RESULT AND DISCUSSION

### A. Selection of Raw Materials Skill

Fig.1 The average skill of the respondent to raw material origin reached 73%, this figure indicated that the skills of raw material origin were in the category of quite skilled. The average skill of respondents to raw material quality reached 85%, this figure indicated that the skills of raw material quality were in skilled category. The average skill of the respondent to raw material selection reached 79%, this figure indicated that the skills to selection of raw materials were in the skilled category.

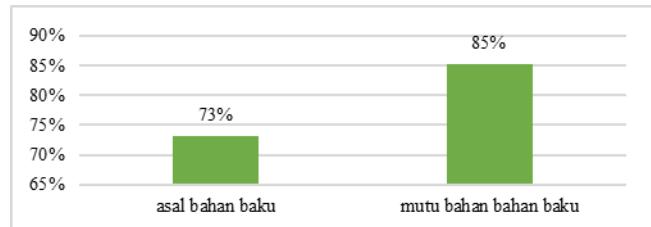


Fig. 1. Skill level to selection of raw materials

Group members had good level of knowledge because the job was done repeatedly. This experience was what affected the skill level of raw material selection. So the group skills were in skilled category.

The existence of a certified fish collector in Makassar city was still minimal causing fishery groups to buy fish raw materials at the Paotere Fish auction site, taking into account the quality standards of fish that have been set as Eye brightness, the color of the scales are still brilliant, the smell is fresh, the texture of the fish meat is elastic, dense and compact. Ideally, the raw material of fish in the collector/supplier of fish that has a certificate of good handling of fish, but in Makassar city itself is not available collector/supplier of fish that has the certificate so alternative purchase Fish raw material comes from Paotere TPI.

### B. Skills in Handling Raw Materials

Fig.2 The average of the respondents' skill toward washing of raw materials reached 59%, this number indicated that the skill in washing the raw materials was in the category of quite skilled. The average of respondents' skill to the raw material weeding reached 59%, it showed that the skill on raw material weeding was in the category of quite skilled. The average of respondents' skills to the second stage of washing the raw materials reached 59%, it indicated that the skill in the second stage of washing raw material was in the category of quite skilled. The average of respondents' skill to the draining reached 72%, this number indicated that the skill in draining was in the category of quite skilled. The average of the respondents' skill in handling the raw materials reached 63%, this showed that the respondents' skill in handling raw materials was in quite skilled.

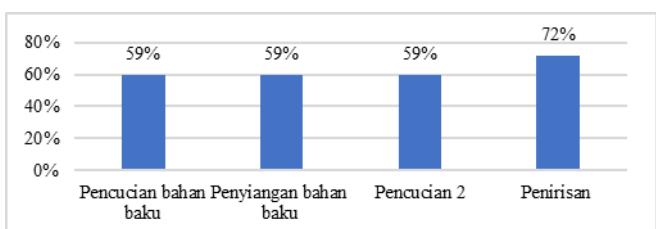


Fig. 2. Skill level on food handling

The members of the group had good knowledge of food handling, but the application to the knowledge was still less optimal so the level of the skill was in the category of quite skilled.

Raw material handling carried out by the fishery processing group at the washing stage (1<sup>st</sup> washing, weeding and 2<sup>nd</sup> washing) raw materials carried out in the basin with uncooled water temperature. Ideally, the raw material

washing is done on water with a temperature of 0 – 5 °C. In the stage of draining, the fish are stored in the ethos and placed in the room with the temperature of the air flow. Ideally the fish is laid at cold room temperature. The water stock in the production site is still limited, so to optimize the water usage, the respondent will only wash the water in the basin. Therefore it does not follow the operational standards of GMP.

#### C. Skills in Processing

The average of respondents' skills to workers reached 71%. this number showed that the skill to the workers was

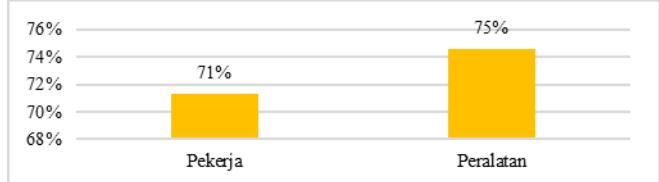


Fig. 3. Skill level of processing

The members of the group had good level of knowledge, but they were less motivated in applying their knowledge optimally. At the time of processing, the respondent did not focus on what they did and acted in a personal way so they did not apply their knowledge based on the standards of GMP.

The process of processing on the fishery product was concerned with worker operational standards and equipment operational standards. The operational standards of workers applied by the group at the time of production were the members of the group should be healthy, not being injured or suffering from infectious diseases, using clean clothes and head cover it covered the hair perfectly, washing hands before starting work, eating and drinking in production areas, using accessories, cosmetics, drugs outside or doing activities that can contaminate. Ideally, when doing production workers are not allowed to use accessories, cosmetics, drugs from outside, eat and drink so they do not contaminate the products that will reduce the quality of the product and can harm the consumer.

The operational standard of equipment production applied to the fishery products group was the equipment that directly contact with the fishery material or product should be easily cleaned, rust-resistant (corrosion), not damaging, and not react with fishery products, product processing equipment must be always clean, free of gravel or other materials that can be used by insects and pests to stay and placement of facilities and infrastructure in the room handling or processing is not separating the groove between unsanitary materials and the flow of clean materials. Ideally the placement of facilities and infrastructures in the handling or processing room separate the groove between the material that is not clean with the flow of materials that have been clean.

#### D. Skill toward Additives and Chemical Materials

Fig.4 The average of the respondents' skill to additional material allowed reached 48.7%, this number indicated that the skill of additional materials allowed was in less category. The average of the respondents' skill to additional

material forbidden reached 49.4%, it showed that the skill of forbidden additional materials was in the category of less skilled.

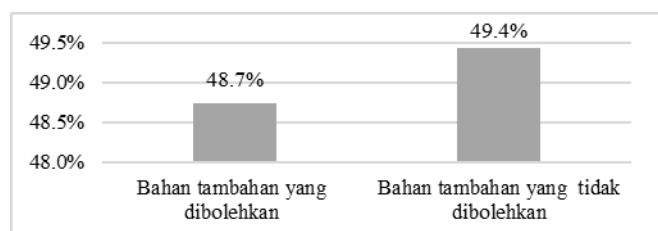


Fig.4 the skill level of food and chemical additives

The level of knowledge of the respondents to additional materials and chemistry was less so the application from the use of additives and chemicals was less skilled. The assumption of the group members was all chemicals are harmful when added to their products so they did not add additives and chemicals into their products.

#### E. Skill of Packaging

Fig.5 The average of the respondents' skill to the packaging material reached 77%, this showed that the skill on packaging material was in the skilled category. The average of the respondents' skill to the weighing of products reached 74%, this number indicated that the skill to weighing products were in the quite skilled category. The average of the respondents' skill to the information on the packaging reached 73%, it showed that the skill to the information of packaging were in quite skilled category.

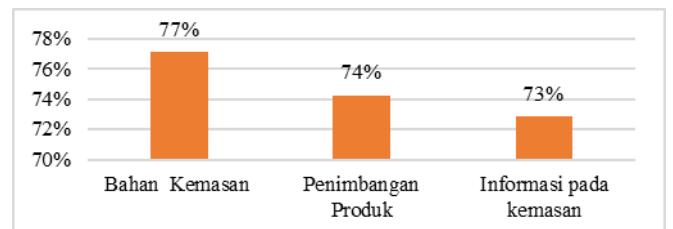


Fig.5 Skill level on packaging

Group members had good knowledge of packaging materials used and often applied to every purchase of packaging materials based on what has been taught, so the expertise was well-honed. In the selection of packaging materials used by the fishery processing group was sterile, it could protect and maintain the quality of outside influences, not influence the content, material did not interfere or affect the quality, could guarantee the origin of the content, resistant to treatment during processing, transportation, and the circulation was not harm to the consumer.

Group members had good knowledge of weighing materials, but there was some confusion in the weighing actions they had done before so it became the experience that they considered true. The experience factor became an influence in the skill level. In the stage of weighing process carried out by the group was turning the scales until stable at zero, the tera (make the number on the scale to zero) then placed the packaging on the scales, weighed the product into the packing according to the weight wanted and the number listed on the scale was the product net. Ideally, on the packing weighing process, first put on the scales then in the

Tera. In the weighing process there is a sequence of mistakes made by group members, namely on the stage of impressions and placement of packaging on the scales. The packaging material should be placed first on the scales and then carried out the application.

Group members had good knowledge of information on the packaging, but had not been able to apply thoroughly. There were 7 items information on the packaging label submitted among other trademarks, product names, lists of materials used or composition, weight/content, names and addresses that produce, information about the halal, date, month and year expired. Information on the group's packaging labels were still lack such as distribution permits, storage instructions, usage instructions, nutritional values, special statements (milk, pork, baby food, artificial sweetener, breast replacement, additives, irradiation materials), and barcodes.

#### F. Skills Against Storage

The average of the respondents' skill to the storage reached 81%, this showed that the skills of storage were in skilled category. The average of the respondents' skill to the storage administration reached 78%, this number indicated that the skills of the storage administration were in the skilled category.

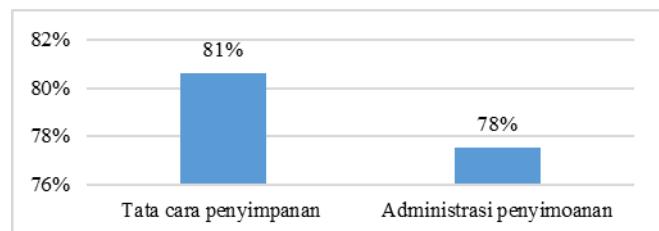


Fig.6 Skill level of storage

Group members had good knowledge of the storage of products and were often applied to group business activities so the experience and expertise were well formed. The procedure for storing products that were applied to the fishery group was produced separately in a clean, insect-free, and or other animal. The administration of product storage in the fishery processing group had been carried out the date and number of product receipt, date and amount of product production and quantity of product stock. The level of knowledge of storage was good and supported by good basic skills like reading, writing and counting. So the storage process did not run into constraints.

#### G. Skills of Distribution

Fig.7 The average of the respondents' skill to the transportation reached 73%, this indicated that the skill to transportation was in the category of quite skilled. The average of the respondents' skill to procedures of the distribution reached 72%, it showed that the skill of the distribution procedures was in quite skilled category.

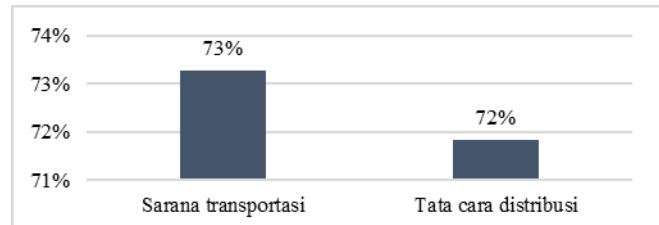


Fig.7 Skill level against distribution

Group members had good level of knowledge to the distribution, but the limitations of existing facilities and infrastructure in the group made them did not apply the knowledge, so the skill level was in quite skilled category. Two-wheeled motors were used as the transportation in distributing the products. The vehicle used was a motor belonged to a member of the group that was used for daily-trip activities other than distributing the product. Ideally the vehicle used should be clean and able to avoid contamination and not be used to other simultaneously.

The procedure of the product being carried out by the group was the carriage of fishery products were not mixed with the type of wet fishery products, the product was only put into the plastic bag and stacked randomly so they can potentially damaged the products . Ideally the transportation of processed products of fishery was not mixed with the type of wet fishery products and the distribution process does not damage the product.

The distribution process carried out by respondents only used the transportation of motorcycles and used a plastic bag as a container to carry the product. This process would make a risk of product damage.

## IV. CONCLUSION

The skills of raw materials are the highest criteria in the analysis of human resources knowledge level to GMP in the fishery processing group in Makassar City. Members of fishery processing group in Makassar City should more often practice the knowledge owned, so that their skill will be better.

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