

Rice Quality Supervision at Bulog Kanwil Perum Central Kalimantan

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ABSTRACT

Procurement of staple materials by Perum Bulog, especially rice, has quality standards that must be applied to all rice, so there is a need for rice supervision to determine the feasibility of the rice given to consumers. The purpose of this research is to find out the monitoring process carried out by Perum Bulog in order to get the quality of rice according to the quality standards set. The results showed that the quality of Bulog's rice procurement was in accordance with the quality of rice determined by BULOG itself. The results of this overall inspection concluded that the Central Kalimantan Regional Office of the Bulog Regional Office conducted the procurement and supply of rice according to the applicable quality standards and the rice that was distributed was suitable for consumers.

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1. INTRODUCTION

The nine basic commodities (SEBBAKO) are very common things in human life, the nine basic ingredients are divided into three parts: primary, secondary and tertiary staples which are classified into types of needs and wants.

The BULOG (Logistics Affairs Agency) that has been formed has the authority and is engaged in logistics affairs and public service obligations as well as maintaining the basic purchase price of grain, stabilizing basic prices, procurement of rice and stocks of other staple food commodities, as well as other tasks related to Bulog's duties in the services section such as transportation services and sales of consumer staples in large and small quantities (Bulog, 2018). Perum Bulog carries out its duties and authorities assisted by regional Bulog or regional divisions spread throughout Indonesia, the Central Kalimantan regional division is one of the branches of Bulog which is located at Jalan RTA. Partners who work together also have rice quality standards determined by partners so that Perum Bulog will carry out quality control when the rice arrives at Bulog's warehouse.

Table 1. Comparison of the Realization of Domestic Procurement in the Domestic Area of Perum Bulog Central Kalimantan Divre from 2017 to 2022

Region	Year					
	2017	2018	2019	2020	2021	2022
Kanwil Kalteng (Operasional)	618,310	540,274	564,274	30,000	583,150	426,550
Kacab Kapuas	3,264,200	2,717,620	1,797,820	2,222,875	1,649,305	252,700
Kacab Sampit	1,489,170	174,350	1,287,800	2,917,360	2,163,850	621,000
Kacab	162,240	54,500	45,675	576,375	155,000	621,000

Pangkalan Bun						
Kacab Muara Teweh	156,000	162,000	114,150	464,080	91,000	78,150
Kacab Buntok	352,490	516,100	139,600	543,400	239,500	218,770
AMOUNT	6,042,410	3,949,319	7,688,050	7,688,050	4,891,805	1,622,17

Based on the table above, it can be seen that the realization of rice procurement has decreased significantly in 2021 in the regional division and the same thing has happened to regional sub-division branches influenced by external factors and in rice procurement such as quality factors that are not in accordance with consumers or other factors. Procurement carried out by Perum Bulog is also accompanied by monitoring the quality of rice arriving at Bulog's warehouse, monitoring the quality of rice by Perum Bulog in order to achieve its development goals in the checking process so that the products produced are in accordance with quality standards and the wishes of rice consumers.

2. METHOD

The choice of location for this research was carried out at the location because Perum Bulog is one of the state agencies engaged in food logistics, especially rice and has the authority to maintain food security throughout the region where Bulog has many scattered branches, especially Palangka Raya, Central Kalimantan.

Based on the location survey, sampling was carried out using the Non-Probability Sampling method or purposive sampling technique, which is a sampling technique based on the researcher's considerations about which samples are most appropriate, useful and considered representative of a population.

The informants who were determined in this study were the Head of Operations and Public Services, UB Staff. The selection of informants was carried out with the consideration that the information received by researchers was valid and needed by researchers. In the quantitative description method which is carried out to find knowledge or theory of research at a certain time to solve a problem (Mukhtar, 2013). Jastasma which is the performance unit of Perum Bulog which is engaged in handling the quality of rice at the GBB Bukit Tunggal Warehouse with actual data.

This data collection was carried out to obtain the information needed in order to achieve the research objectives. Primary Data Primary data is data obtained from objects studied by people or organizations that are conducting research.

The primary data in this study were taken from the results of interviews and documentation as well as observations where the related data contained ongoing management. Secondary Data Secondary data is a variety of pre-existing information and is deliberately collected by researchers that are used to complement research data needs.

The data on the amount of rice is checked for quality on each arrival of the rice commodity before entering the warehouse. The data collection technique obtained in the study was carried out in order to obtain complete data from both primary and secondary data which will be processed later. The observation in this study was by making direct observations in the field to find out the actual conditions at the research location, namely Perum Bulog Regional Office of Central Kalimantan. Interviews are two-way communication to obtain information from related respondents by conducting questions and answers between informants and interviewers to obtain previously designed data.

The interview technique conducted by the researcher is using in-depth interview technique, which means that in-depth interviews are conducted to obtain comprehensive and detailed information about an object or event and are usually only carried out on key informants.

Based on the research objectives, the data analysis method was answered using Statistical Quality Control quality control techniques. This statistical control technique uses the control chart method as follows: The control chart method is intended to determine whether the product produced is in accordance with predetermined standards or not. also to find out how much deviations can be tolerated (Gryna.Frank, 2001). So that if there is a deviation can be immediately identified and searched for the factors that cause the occurrence of these deviations. The control chart analysis that will be used to analyze the data below is the X chart type control chart.

X – Chart analysis is product quality control for variables based on the average number of sub groups. With this chart, it is known the variations between subgroups. but unable to see

individual variables of subgroups. This analysis is used to control moisture content, broken rice, and several other rice quality standards.

3. RESULTS AND DISCUSSION

3.1 Research results

Bulog Public Company (Perum BULOG) is a State-Owned Enterprise which was established on January 21, 2003. This is because Perum Bulog is the result of an institutional transition or a change in the legal status of a Non-Departmental Government Institution (LPND) to become a State-Owned Enterprise (BUMN) in the form of a company. Public (Perum).

The change in the status of the Bulog legal entity also affected the vertical coordination flow, which was originally under and directly responsible to the President of the Republic of Indonesia to become under the coordination of the Ministry of SOEs and other technical Ministry Institutions. 39 of 1969 dated January 21, 1969 with the main task of stabilizing rice prices, and then revised again through Presidential Decree No. 50, to improve the organizational structure of Perum Bulog which basically aims to sharpen the main tasks, functions and roles of Bulog. Therefore, BULOG's responsibilities are more focused on increasing the stabilization and management of supplies of basic commodities and food. The main tasks according to the Presidential Decree are to control prices and manage supplies of rice, sugar, wheat, flour, soybeans, feed and other food ingredients,

3.1.1 Bulog Rice Quality/Quality Requirements

The requirements or quality standards for rice at Bulog have been determined from the start and form the basis of every Bulog rice procurement. namely general and special requirements (Bulog, 2022) The following are the requirements for rice quality at the State Logistics Agency in general. Free of living pests and diseases the presence or absence of living pests (eg insects and caterpillars) or diseases (eg fungi) present in the rice samples examined (primary samples). Insect carcasses are categorized as foreign objects. Free of musty, sour and other foreign odors. Regarding odors captured by the sense of smell in the sample of rice examined. The odors that are rejected are rotten, sour, musty and other foreign odors which are clearly different from the smell of healthy rice. Clean from a mixture of bran or bran (free) from rice. Free of signs of harmful chemicals Remains of chemicals such as fertilizers, pesticides and other chemicals that are harmful to human health and safety.

The following are the rice quality requirements at the Perrum Bulog in particular: Moisture content is the amount of water content in rice grains expressed in units of percent; The degree of milling is the degree of detachment of the katui layer from the rice; Head Rice is the sum of Whole Grains and Large Broken Grains. Large broken grains are rice grains that are larger or equal to 6/10 of the average length of whole rice grains; Whole Grains (Whole Kernel) Rice grains are intact/without any broken parts; Broken Grains are broken grains of rice. These rice grains are smaller than 6/10 of the average length of whole rice grains, but larger than 2/10 of the average length of whole grains; Menir grains are broken rice grains that are smaller or equal to 2/10 of the average length of whole rice grains; Chalk Grains are rice grains that have a white coating like chalk; Yellow or Damaged Grains Yellow grains are rice grains that are yellow, brownish yellow or yellowish (false yellow) caused by water, pests/diseases, heat and other causes; Red Grain Rice grain whose surface is covered with red epidermis; Foreign matter that is not classified as grains of rice, for example, grains of earth, sand, gravel, straw, rice stalk, rice husks, grains, insect carcasses and so on; Grain Grains Rice grains whose husks have not been peeled off or only partially peeled off; Mixture of Other Varieties Mixture of other rice varieties that are not the desired rice variety.

3.1.2 Supervision And Inventory of Rice Quality

The supply of rice in Bulog warehouses can only store rice for a maximum of 3 months with the quality of the rice still being in good condition. So during the process of procurement and supply of rice, quality control is carried out, starting from inspecting the quality of rice, then carrying out inspections and supplies such as spraying and fumigation. Sparaying is carried out 1 time in 3 months during the rice storage period while fumigation is carried out once in a matter of 25 days after the previous fumigation was carried out for drugs used in fumigation using tablet-shaped drugs at a dose of 2 tablets for 1 ton of rice, fumigation is carried out by covering the entire surface rice using plastic or tarpaulin for one full week so that the fumigation process goes well, while in

sparaying using liquid medicine with a dose of 100 ml of medicine for a dose of 20 liters of water and spraying all parts of the rice and warehouse.

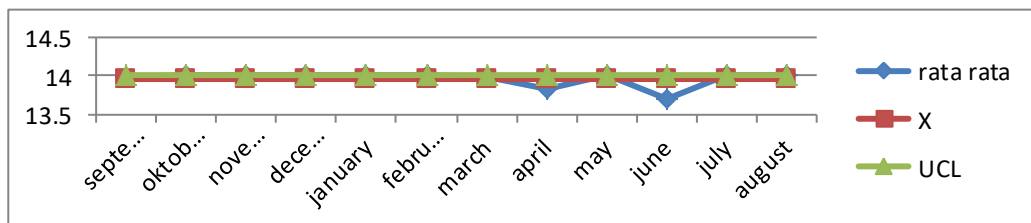
Supervision of rice quality during storage is carried out by calculating the control limits for rice that has good quality so that the extent of damage to rice can be determined in view of the applicable rice quality standards.

3.1.3 Statistical quality control test

Statistical quality control is carried out using the statistical tool X – chart contained in the SQC (statistical quality control) by calculating a control limit of 3 sigma (standard deviation), for a 99.7% confidence interval or a control limit of 2 sigma for a 95 confidence interval. (%). The control chart X is used to monitor processes that have continuous dimension characteristics, so it is referred to as a control chart for variable data. Control chart X explains the changes that occur in the size of the central point or the average of the existing rice quality checking process (Gaspersz, 2001). In the quality inspection process that follows the standard, Using Bulog's rice inspection data from September to August, one inspection was selected with a sample size of 3 times in each process of checking the moisture content and continued with examining the degree of milled grain broken and groats. Data regarding the supervision of rice products can be seen from each table and control chart as follows:

a. Checking the water content of the rice

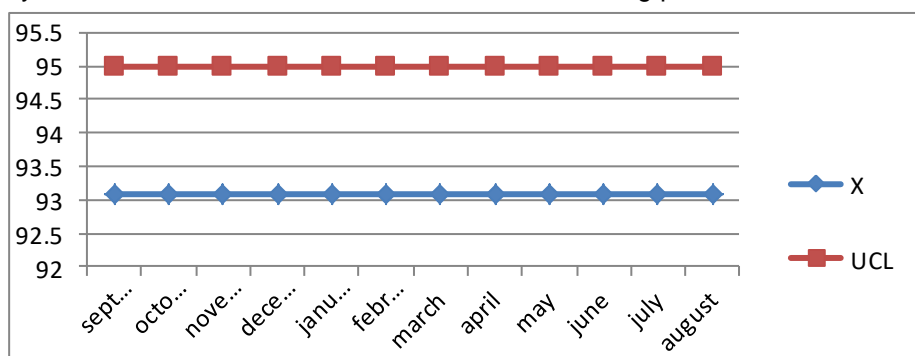
The rice inspection data related to water content at Perum Bulog Central Kalimantan regional office in the period September 2021 to August 2022 which was carried out by UB. Jastasma which can be seen from the following picture:



Based on the results of the control chart of the water content in the rice above, it is obtained that all rice is still on a good scale and there is no rejection of the rice supplied by Bulog because it is still within the applicable Bulog rice quality standards, which can be seen that $X < UCL$ which is explained more the smaller the inspection results from the applicable standards, the better the quality of rice

b. Examination of quality standards on the degree of sosoh.

Meanwhile, rice inspection data related to the degree of milling at Perum Bulog Central Kalimantan regional office in the period September 2021 to August 2022 which was carried out by UB. Jastasma which can be seen from the following picture:

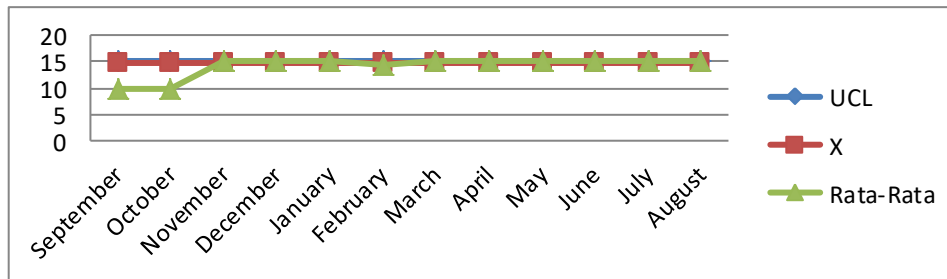


Based on the results of the control chart, results are obtained which explain that the degree of milling of rice in the procurement of rice is still within the control limits and is still within the rice quality standard set by Bulog rice, which on the control chart $X < UCL$ and is still at the upper limit of the quality standard set by Perum. bulog.

c. Supervision of broken grain inspection results in rice.

Meanwhile, data on rice inspection related to broken grains at the Central Kalimantan

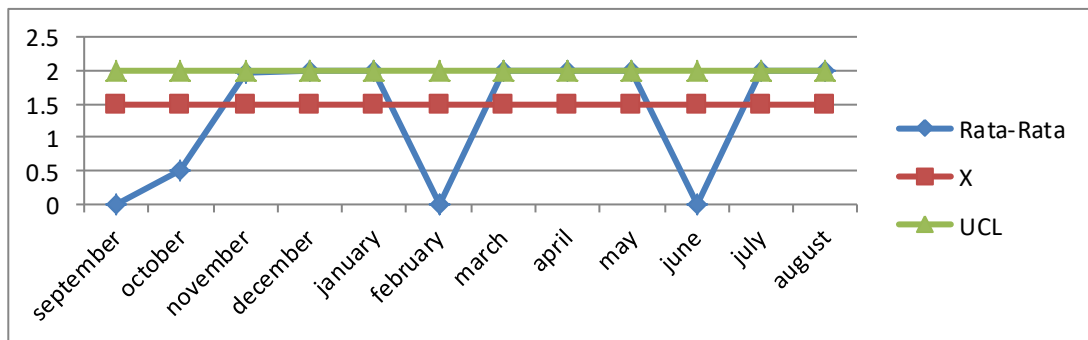
Regional Office of Bulog Perum from September 2021 to August 2022 which was carried out by UB. Jastasma which can be seen from the following table:



Based on the results of the rice quality inspection control chart related to broken grains, it is still within good enough limits and is still in accordance with the rice quality standards owned by Central Kalimantan Bulog Perum.

d. Supervision of grain inspection results on rice

Meanwhile, data on rice inspection related to broken grains at the Central Kalimantan Regional Office of Bulog Perum from September 2021 to August 2022 which was carried out by UB. Jastasma which can be seen from the following table:

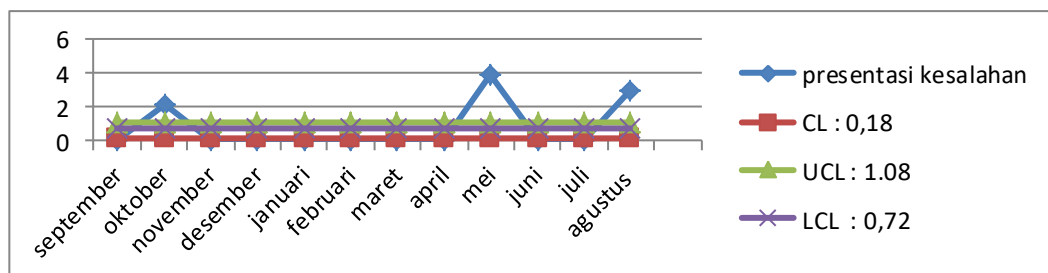


Based on the results of the control chart above, it can be seen that the results of inspection of rice related to groats on rice are in accordance with applicable quality standards with $X < UCL$, which means that the smaller the average inspection of groats from the rice quality standard, the better it will be.

e. Quality inspection during storage of rice

Based on secondary data owned by the general company Bulog, the Central Kalimantan Regional Office, there is some rice procurement data that experienced a decline in quality within a 12-month period of rice procurement, which was characterized by a discrepancy between the quality of the procurement of rice and the quality standard of rice owned by Perum Bulog.

The rice procurement data at the Central Kalimantan regional office of the Bulog Public Corporation for the period September 2021 to August 2022 can be seen from the following picture:



Based on the control chart above, it can be seen that the data obtained are generally within the control limits. In the picture above, quality declines occur in September, May and August in the

2021 and 2022 periods which are beyond the control limits. This happened when Bulog was handling a food problem which was quite complicated due to the covid pandemic in 2021 and 2022 where Bulog continued to procure rice, whereas in that year rice production experienced a significant decline due to limited human activities to avoid the spread of corona disease so that the quality and the amount of rice from farmers also decreased.

4. CONCLUSION

Based on the results of the research and discussion on rice quality control at the Central Kalimantan Regional Office of the Logistics Agency, the following conclusions can be obtained: Procurement carried out by Perum Bulog Kanwil Central Kalimantan is accompanied by a quality control process for rice procurement. Supervision was carried out in this study using the Control Chart Method in the period September 2021 – August 2022, with the work order being 2 activities, namely: Quality Control at the initial process stage Quality Control (QC) and Supervision of rice quality in rice stocks in the warehouse, visual process 2 which shows the guarantee of the quality of the product that will be sold to consumers. Both of these activities were carried out to avoid the possibility of shipping products that were damaged or far below the company's quality standards. With different samples, it can be seen by the number of samples of 2,203,745 kg with a confidence interval of 99.7% (3 sigma) resulting in UCL = 1.08 and LCL = 0.75 and the results of inspections carried out using the product control chart method on quality standards show that the supervision carried out by Perum Bulog is quite good with applicable standards where the results of supervision show that the component of water content is 13.95% < of the quality standard of 14 %, the grinding degree was 93.08% < of the quality standard of 95%, broken grains were 14.7% < of the 15% quality standard, and groats were 1.5% < of the quality standard of 2%.

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