Formosa Journal of Science and Technology (FJST)
Vol. 4, No.1, 2025: 1-16

Processing Village Superior Commodities Into Competitive Multisrata Products in West Halmahera District

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A R T I C L E I N F O

Keywords: Leading Commodities, Multistrata Products, West Halmahera

Received : 9, December
Revised : 23, December
Accepted: 6, January

A B S T R A C T

This research analyzes superior commodities and their derivative products (multistrata products) in West Halmahera Regency, North Maluku Province. The study was conducted in Golo village, Sahu sub-district from March to August 2024, using both quantitative and qualitative methods. Data collection involved primary sources through field surveys and secondary sources from government agencies. Location Quotient (LQ) analysis revealed banana (1.562), coconut (1.544), nutmeg (1.243), and corn (1.240) as base sector commodities, while durian (0.116) was identified as a non-base sector commodity.

ISSN-E: 2964-6804
DOI: https://doi.org/10.55927/fjst.v4i1.13000
https://journal.formosapublisher.org/index.php/fjst

INTRODUCTION

West Halmahera Regency of North Maluku Province has a strategic position, namely at the intersection of five Halmahera islands flanked by the Pacific Ocean, North Halmahera Regency, Tidore Islands City, Ternate City and the Maluku sea and is on the golden triangle route. The regency has abundant natural resources and can be managed into horticultural products as one of the agricultural commodities to be developed into main products and derivative products into superior products that improve the welfare of the community (Kuncoro, 2012). Several leading sectors in West Halmahera Regency, one of which is the agricultural sector. The agricultural sector is a potential horticulture. Based on the BPS source of West Halmahera Regency in 2023, that the amount of coconut production was 35,586 tons, the most abundant fruits were bananas with a total of 71,977 tons with the largest production located in Sahu and East Sahu Districts. This will be an opportunity for local economic development in the village to be developed into main products and derivative products.

West Halmahera has abundant natural resources and has made breakthroughs in making superior products such as Banana chips, instant salad and instant ginger, Halua Kasbi /cassava (Sopacua, et al. 2020). However, it is necessary to increase innovation related to the utilization of coconut and banana commodities into main products and derivative products into agro-industry products owned by West Halmahera, which until now has not been done. The main horticultural products of West Halmahera Regency are coconut and banana. The most superior type of banana in West Halmahera is Mulu Bebe which is a local type of West Halmahera banana which is currently the focus of the Ministry of Agriculture program in developing superior horticultural centers. In addition, the main source is coconut plantations.The coconut fruit produced can be processed into the main product but so far the utilization of coconut commodities has not been widely done by the people of West Halmahera.In order for the utilization of coconut and banana commodities to be carried out effectively, it is necessary to determine the priority types of agro-industry to be developed by considering the utilization factors focused on village superior commodities. The availability of adequate resources should be utilized to the greatest extent for the welfare of the people (Lay and Pasang, 2012).

Utilization of superior coconut and banana commodities into main products and derivative products can be done to increase the value of innovation. In order for the development of agroindustry product diversification to run effectively, it is necessary to study and analyze the utilization of superior commodities into main products and derivative products that have innovation value and can improve the community's economy (Suharto, 2018). Based on the background description above, the purpose of this study is to analyze superior commodities into main products and derivative products in West Halmahera Regency.The results of this study are based on the research objectives, namely to analyze the utilization of village superior commodities for competitive multisrata product processing in West Halmahera Regency.

THEORETICAL REVIEW

Leading/Basic Commodity

Leading/basic commodities are the first step to spur economic growth. Furthermore, Pantouw et al., (2018) stated that basic sector commodities are used to increase the level of exports to outside the region. This shows that there are 5 types of commodities in the basic sector category and 1 type of commodity in the non-basic sector category. Superior commodities are commodities that have advantages comparative in terms of supply and demand, where from the supply side Leading commodities are characterized by their superior growth under conditions biophysical, technological and socio-economic of farmers in a region and from side to side demand, superior commodities are characterized by strong demand in the market domestic and international (Permata et al. 2020). According to Rachma (2003). What is meant by superior commodities are mainstay commodities that have strategic position to be developed in a region.

Derivative Products

According to Kotler & Armstrong in Kurnia (2021) products are everything that can be offered to the market for attention, purchase, use, or consumed that can satisfy a want or need. By Product conceptualization is the producer's subjective understanding of something can be offered as an effort to achieve organizational goals through fulfillment of consumer needs and activities, in accordance with competence and organizational capacity and market purchasing power. Kurriwati (2019) products are everything that a manufacturer can offer to pay attention to, ask for, sought, used, or consumed by the market to fulfill needs or the desires of the relevant market. Conceptually the product is a producer's subjective understanding of something that can be offered, as efforts to achieve organizational goals through meeting needs and consumer desires, in accordance with the organization's competence and capacity as well market purchasing power.

METHODOLOGY

The research took place in Golo village, Sahu sub-district, West Halmahera Regency. The research was conducted from March to August 2024. This type of research is quantitative and qualitative. This research data source is divided into two parts, namely primary and secondary data. Primary data obtained through field surveys include the collection of livelihoods, customs, facilities and infrastructure. Secondary data is from government agency data related to this research, including population, economy, physical aspects of the environment, and institutions.

Data analysis uses Location Quotient (LQ) analysis. According to Martadona et al, (2014), Location Quotient (LQ) is an analysis to determine the potential of economic activities, namely knowing the capabilities of the base and non-base sectors.

$$LQ = \frac{R_{ik}/R_{tk}}{N_{ip}/N}$$

Information:
Rik : Production of commodity i at village level
Rtk : Total village commodity production
Nip : Production of commodity i at sub-district level
N : Total commodity production at sub-district level

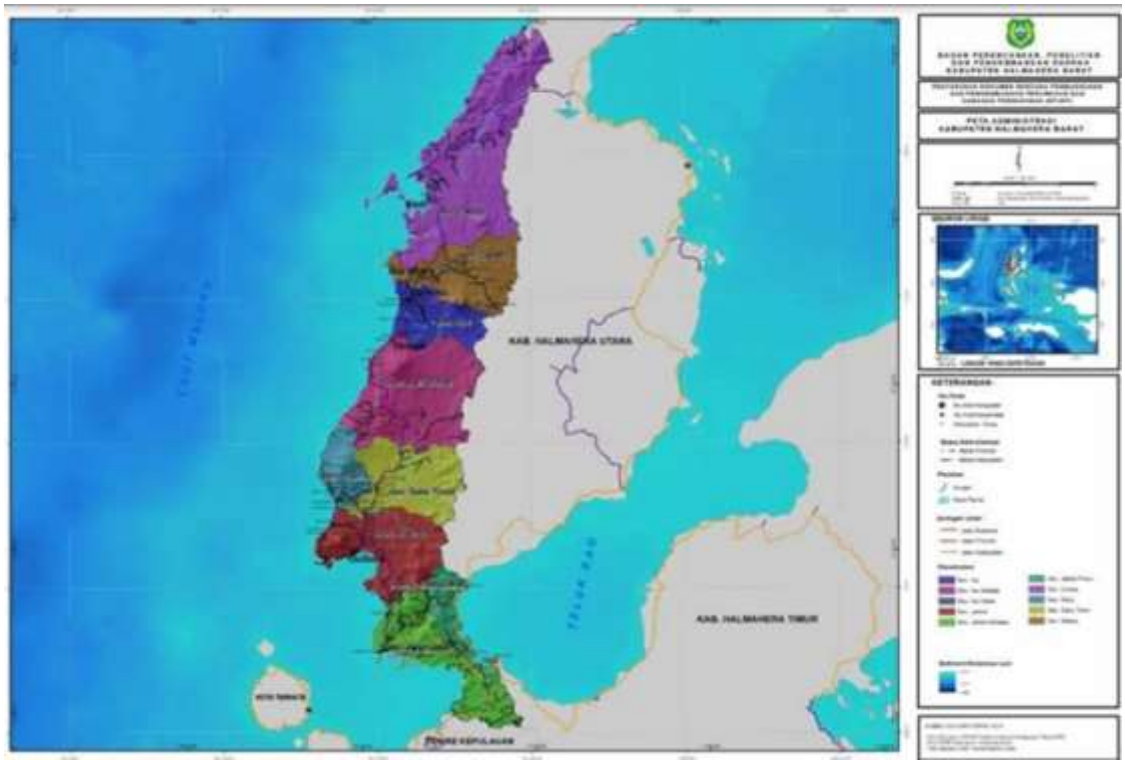

Figure 1. Map of West Halmahera Regency

RESULTS

Leading Commodities

Data on leading commodities was obtained from production data at the District, subdistrict and Golo Village levels, which is described below.

a. Production Data of Agricultural Commodities of West Halmahera Regency in 2022-2023

Commodity data is obtained from District, Sub-district and Village agricultural commodity production data, as described in the following Table 1 and Figure 2.

Table 1. West Halmahera Regency agricultural commodity production data

No	Commodity	Agricultural Commodity Production (Ton)		Value
		2022	2023	
1	Coconut	37,086	35,586	72,672
2	Nutmeg	653	853	1,506

3	Banana	57,196	55,658	112,854
4	Durian	66,581	79,214	145,795
5	Corn	7,712	6,871	14,583
	Total	**169,228**	**178,182**	**347,410**

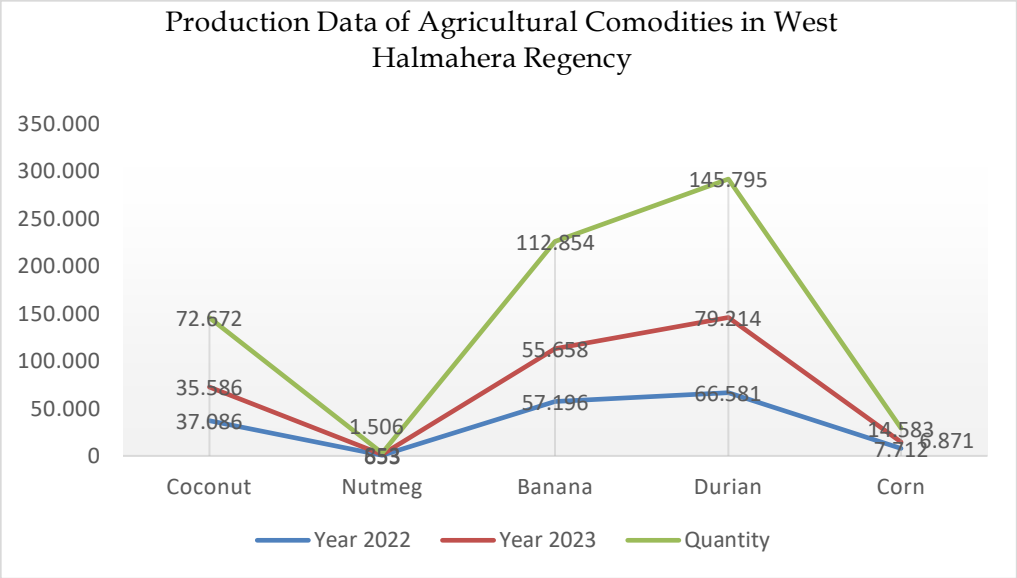

Figure 2. Production Data of Agricultural Commodities in West Halmahera Regency

Table 2. Sahu sub-district agricultural commodity production data

No	**Commodity**	Agricultural Commodity **Production (Ton)**		Value
		2022	**2023**	
1	Coconut	6,125	8, 029	14, 154
2	Nutmeg	3,064	4, 230	7,294
3	Banana	11,120	10,521	21,641
4	Durian	14,314	16,420	30,734
5	Corn	2,035	2,672	4,707
	Total	**36,658**	**41,872**	**78,530**

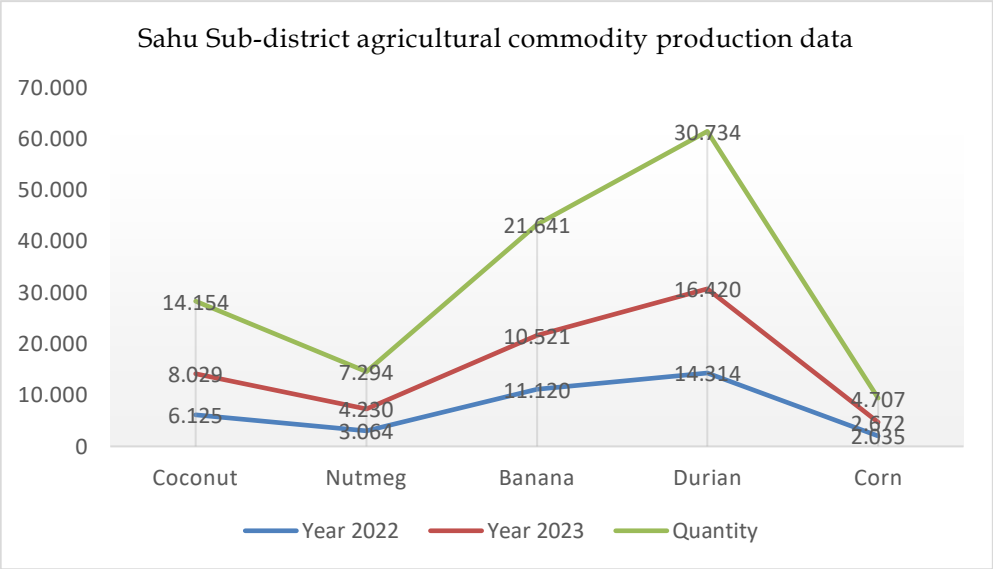

Figure 3. Sahu sub-district agricultural commodity production data

Table 3. Golo Village Agricultural Commodity Production Data

No	Commodity	Agricultural Commodity Production (Ton)		Value
		2022	2023	
1	Coconut	3,125	3,029	6,154
2	Nutmeg	2,062	3,030	5,092
3	Banana	5,110	4,321	9,431
4	Durian	9,514	10,620	20,134
5	Corn	1,351	1,927	3,278
	Total	**21,162**	**22,927**	**44,089**

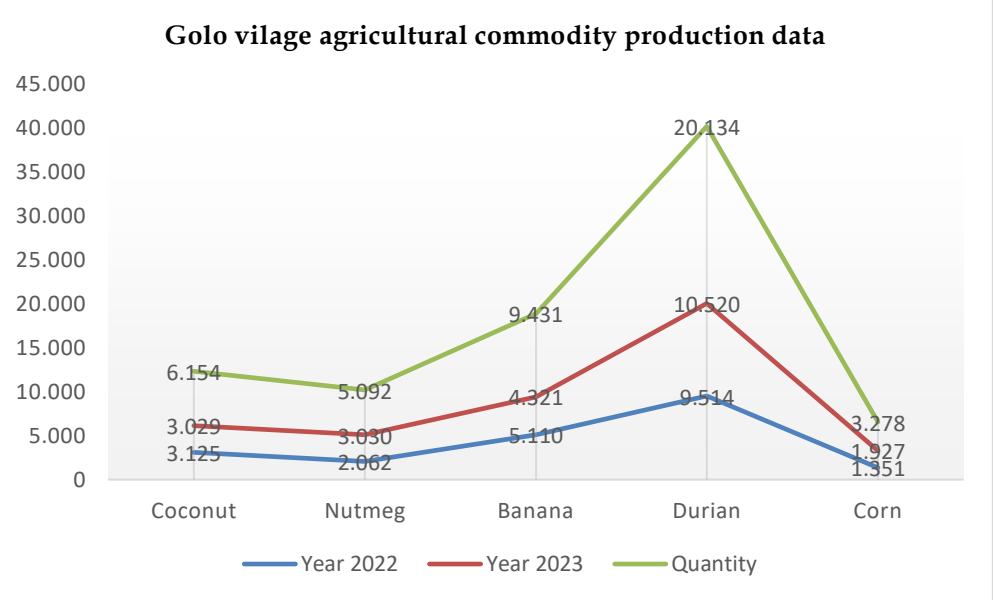

Figure 4. Golo village agricultural commodity production data

District, sub-district and village agricultural commodity production data were taken for the last two years, namely 2022 and 2023, obtained from West Halmahera Regency statistical data, while sub-district commodity production data

were obtained from the Sahu Sub-district office and Golo Village office. The figure above shows that agricultural commodity production in West Halmahera Regency focuses on five types of commodities, namely coconut, nutmeg, banana, durian and corn.

The results of research on the identification and results of the LQ analysis of Golo village's superior commodities and the types of basic and non-basic commodities in Golo village can be seen in table below.

Table 4. Results of identification and LQ Analysis of Agricultural Commodities in Golo Village

No.	Commodity type	LQ value	Description Sector
1.	Coconut	1,544	Base
2.	Nutmeg	1,243	Base
3.	Banana	1,562	Base
4.	Durian	0,116	Non base
5.	Corn	1, 240	Base

The results of processing superior coconut commodities into main products and derivative products

After knowing the LQ value of agricultural commodities owned by Golo village, commodity-based agriculture in Golo village becomes a major milestone in rural development, especially through the development of agro-industrial villages. Leading commodities, such as coconut, nutmeg, banana, durian and corn, offer great potential to increase community income, drive economic growth and reduce poverty. In addition, these commodities also play an important role in social and environmental development, building more resilient and sustainable communities. This is done by the community through the utilization of superior commodities into competitive main products and derivative products to achieve prosperity. The results of the utilization of superior commodities can be seen in Table 5 below.

Table 5. Processing and Utilization Results of Golo Village's Leading Commodities

No	Leading Commodities	Main Products Derivative Products
1.	Coconut	: Coconut milk, coconut oil, coconut unti VCO, various pastries, unti-filled biapong cakes
2.	Nutmeg	: Nutmeg flesh, nutmeg seeds, nutmeg mace Candied and dried nutmeg, syrup, medicine, cooking herbs
3.	Banana	: Banana meat, banana flour, banana chips, fried bananas, banana cake
4.	Durian	; Durian meat Durian acida, durian dodol and durian number cake
5.	Corn	: Corn meat Corn flour, cakes, corn cake

Based on table 5 below, it shows that Golo village has five superior commodities that are utilized to become main products and derivative products. The five commodities are coconut, nutmeg, banana, durian and corn. For the type of coconut commodity that is utilized into the main product, namely in the form of coconut meat, coconut oil and coconut unti. Furthermore, this main product is processed and utilized into derivative products in the form of VCO oil, various pastries and biapong is unti cakes. Furthermore, the superior commodity of nutmeg is processed into the main product in the form of nutmeg meat, nutmeg seeds and nutmeg mace are processed into derivative products in the form of base and dry sweets and seasonings. For superior banana commodities, it is utilized into the main products, namely banana meat and flour, which are then processed and utilized again into derivative products in the form of banana chips, fried banana flour and banana cake. In the type of durian superior commodity, the Golo village community utilizes durian fruit meat as the main product which is processed into derivative products in the form of durian asida cake, durian dodol and durian number cake. Meanwhile, the meat of corn is processed into the main product which is then processed into derivative products in the form of corn flour, corn cakes and corn cakes.

DISCUSSION

District, sub-district and village agricultural commodity production data were taken for the last two years, namely 2022 and 2023, obtained from West Halmahera Regency statistical data, while sub-district commodity production data were obtained from the Sahu Sub-district office and Golo Village office. The figure above shows that agricultural commodity production in West Halmahera Regency focuses on five types of commodities, namely coconut, nutmeg, banana, durian and corn.

Golo Village is one of the villages administratively located in West Halmahera Regency, Sahu District, which has an area of 1.22 km² with a population of 666 people (BPS, 2022). The current condition of Golo Village can be said to have experienced a shift in cultural values. The shift in cultural values is related to the tradition of cultivating field rice which is no longer carried out and the community prefers other commodities as can be seen from the RPJMDes data (2019), namely that the majority of Golo Village people work as farmers with cultivated commodities including coconut, nutmeg, banana, durian, and corn. So that since 2019 the Golo Village government has directed the program by providing land for efforts to plant these five commodities. This aims to fulfill the economic needs of the community and welfare and to meet market demand. In addition, these superior commodities will be competitive both at the village and national levels. According to Suharman, et al (2018) stated that competitiveness at the village level will support regional and national levels. Villages in Indonesia reach 74,957, if at the local level (village) competitiveness can be improved, the results will contribute to national competitiveness. globally, Indonesia's competitiveness must be improved through competitiveness indicators which are used as the basis for formulating, determining, evaluating and monitoring regional development policies, programs and activities towards sustainable community welfare. The core of sustainability of a competitiveness is highly dependent on the

management of all potential productive resources supported by technological strengthening to meet market needs and demands.

Based on the data in Table 4, it shows that Golo Village has 5 basic commodities. These commodities are coconut, nutmeg, banana, durian, and corn. These commodities become the basic sector which is an economic activity in the domestic market and markets outside the region. The basic sector can produce profitable commodities. According to Baladina et al. (2013), basic commodities are the first step to spur economic growth. Furthermore, Pantouw et al. (2018) stated that base sector commodities are used to increase the level of exports outside the region. This shows that there are 5 types of commodities categorized as basic sectors and 1 type of commodity categorized as non-basic sectors. The agricultural commodity that has the highest LQ value is banana at 1.562. According to Basri Hariadi (2020), the role of banana commodities in the national economy is proven to be a source of carbohydrates and vitamin A. National banana production in 2020 reached 7,280,658 tons per year. North Maluku contributed 8,627 tons. Various types of bananas are found in North Maluku, including Mulu Bebe bananas (Hidayat et al, 2021). The criteria for land potential for commodity development, commodities that are suitable for planting in the area (agro-climatic), and criteria for technical support for planting and post-harvest processing make bananas one of the leading commodities.

Golo village has quite a lot of coconut commodities so that VCO can be one of the potential businesses that can be done to increase community income. So far, the people of Golo village can utilize coconut meat into coconut milk, coconut oil and coconut unti as the main product which is then processed into derivative products in the form of VCO oil, various pastries made from coconut oil, and biapong cakes filled with coconut unti. This is in line with the opinion of Dwijatenaya et al., (2021) which states that Coconut (cocos nucifera) is a plant commonly found in tropical temperatures. Coconut can be utilized in all its parts and becomes a potential that can be derived into products that have commercial potential. The role of coconut is one of the sources of income because considering this plant has the ability to produce throughout the year and continuously and can be sold directly in the market (Muis, 2018). Coconut meat is widely utilized into one of the products in the form of coconut milk which is the raw material for cooking. However, this plant can not only be utilized for its meat but can be made into various products that can be a better potential including copra, coconut oil, VCO oil, and brown sugar (Sasongko, 2010). Furthermore, according to Suradi et al, (2017) stated that the current weakness of farmers is the absence of creative abilities in the development and manufacture of processed products from coconut itself. In the future the government needs to provide assistance and training so that it can have a significant impact on the economic growth of the community. The government can facilitate this opportunity by mobilizing relevant agencies at the regional level and engaging non-governmental parties, particularly the private sector, in the context of empowering and marketing these commodities (Muttaqin et al., 2017; Muttaqin, 2021; Sayuti et al., 2022). It because, there is a lack of opportunities for farmers to connect with outside investors in selling their products (Emilia et al., 2021).

So far, the people of Golo village cultivate nutmeg plants and then utilize the meat, seeds and mace of nutmeg into processed products that can be sold in the form of candied nutmeg, nutmeg syrup, spices and medicines. According to Tutiliana (2018), the knowledge of the community about the characteristics of nutmeg plants that are most widely known by the community is medicinal plants that are useful as medicines and cooking spices (30.8%), and their stems are useful as firewood (34.6%) and the benefits of nutmeg plants that are most widely known by the community are as medicines, cooking spices, food, stems for firewood, and as traditional medicines (34.6%). Nutmeg conservation efforts are mostly done by using and cultivating nutmeg so that nutmeg plants can always provide benefits for life (38.5%). Nutmeg products in Indonesia are superior and world-renowned. Not only does it have a distinctive aroma and high oil yield but also its products can be processed into value-added products that produce products with high economic value (Astanu et al. 2013). According to Bulan (2017), efforts to diversify nutmeg include making candied nutmeg, nutmeg syrup, nutmeg oil, and nutmeg balm. Product diversification is an effort to expand the range of goods to be sold and is a company strategy to increase market penetration.Product diversification is done by adding categories and types of products to be sold so that consumers have many choices of products to buy. This diversification can be done by the home industry. Home industry is a production system that produces products through a value-added process from certain raw materials, which are done at home locations and not in factories (Sumatri et al. 2013).

West Halmahera Regency has a superior commodity in the form of mulu bebe banana which has the potential to be processed into valuable products. Mulu bebe banana is the most common type of banana in West Halmahera Regency, North Maluku Province. The cultivation process of mulu bebe banana farmers in Sahu Subdistrict only relies on experience that is hereditary from ancestors. Banana is one of the leading horticultural commodities in Indonesia and one of the primary centers of banana diversity, both fresh, processed and wild bananas, with a variety of more than 200 types of bananas. This diversity provides an opportunity for Indonesia to utilize and select the types of bananas that are commercially needed by consumers. One of Indonesia's commodities that has great potential but has so far received little attention is the banana fruit, which is the most widely produced and consumed fruit commodity in Indonesia (Azzam, 2016). One of the bananas widely consumed by the people of North Maluku, especially West Halmahera Regency is mulu bebe banana. Based on survey results in the West Halmahera region there are several farmers who grow mulu bebe bananas and become a source of income, namely in Sahu and East Sahu Districts.In 2013 banana production in Sahu and East Sahu districts reached more than 15 thousand tons, (BPS West Halmahera, 2013).According to (Waluyo & Sinaga, 2015).Land area is one of the production factors that greatly affects crop production.Land that is too large does not mean it can provide high production yields, but land that is too narrow is also inefficient in land management. The land area owned ranges from 0.5 -2 Ha or in the medium category so it is hoped that farmers can make the most of the land with the use of new and appropriate

technology in order to increase the production of banana mulu bebe. The agricultural sector in West Halmahera Regency is a major horticultural producer, in addition to plantations, the results vary including nutmeg, mangosteen, rambutan, durian, bananas and vegetables. Bananas, various types of varieties are found here, such as Mulu Bebe (Duck Mouth). Goroho, Needle, Shoe/flap and Horn. Of these varieties, the most popular among farmers in West Halmahera is Mulu Bebe.This local banana variety is currently attracting the attention of farmers in West Halmahera.The banana yield from West Halmahera district is 8,200 tons per year or equivalent to 62 percent of the total provincial production.For the Mulu Bebe banana itself, which is a local specialty banana, it is planned to get certification from the Ministry of Agriculture. The provincial government plans to make a Mulu Bebe banana pilot for export needs.What will be done is of course in line with the spirit of encouraging export commodities implemented by the Ministry of Agriculture (KEMENTAN RI, 2018).

Banana ranks third in terms of production among other types of fruits owned by West Halmahera Regency. The total banana production in 2023 of West Halmahera Regency contributed 4,321 tons (BPS MALUT, 2023). Mulu Bebe banana is one of the leading bananas in North Maluku. West Halmahera Regency is the region with the largest production of Mulu Bebe bananas. The West Halmahera District Government plans to develop Mulu Bebe banana into a superior product, including to penetrate the export market. This plan is in line with the spirit of the Ministry of Agriculture to encourage export commodities. Mulu Bebe banana, a typical banana of West Halmahera, can be processed into various foods and beverages, such as chips, fried bananas, and cakes. According to Hidayat, et al, (2021) stated that generally Mulu bebe banana fruit is consumed as table fruit and can also be made into various processed products. However, most of the Mulu Bebe banana fruit in West Halmahera Regency, North Maluku Province is mostly utilized in its raw state to be used as fried bananas in the form of chips which are rather thick compared to the usual banana chips and for ripe ones, consumed in the form of boiled bananas. One of the preparations that we can make from Mulu Bebe bananas is boiled bananas. In addition to its delicious taste, boiled bananas can also facilitate digestion and prevent constipation or diarrhea.One of the preparations that we can make from Mulu Bebe bananas is boiled bananas.In addition to its delicious taste, boiled bananas can also facilitate digestion and prevent constipation or diarrhea.Mulu Bebe banana has a long, thin shape and when cut it has a shape like a duck's beak.In addition, mulu bebe bananas are also processed into fried bananas.Mulu Bebe Fried Banana is usually enjoyed with Sambal Colo colo, which is made from a mixture of chili, onion, tomato, lime and sweet soy sauce.

Durian is very beneficial for health. Durian benefits. Durian is one of the delicious and favorite fruits for some people. Sweet, pungent odor, yellow fruit color and sharp thorns on the skin are physical characteristics of durian fruit. However, durian enthusiasts will always look forward to the durian season. Besides being sweet, durian fruit also has various nutritional content that is beneficial for the health of the body. Some of the properties are preventing abnormal cell changes, premature aging and improving skin health. In addition

to its health benefits, durian fruit meat can also be processed into stratified products, namely the main and derivative products. The people of Golo Village, West Halmahera Regency, utilize durian fruit pulp into derivative products in the form of asida cake, durian dodol and durian number cake. This is in line with the opinion of Herman, (2009) which states that durian fruit can also be utilized into sheet jam (fruit leather). Jam is a type of preserved food in the form of fruit juice or fruits that have been crushed, added sugar, and cooked until thick or semi-solid.Sheet jam is a modification of the form of jam that was originally semi-solid (rather liquid) into sheets that are compact, plastic, and not sticky.Aside from its practicality in use, sliced jam products also provide relatively even results on bread.This jam sheet has a shape like a cheese slice.Processing durian meat into derivative products carried out by the people of Golo village is very helpful to increase the selling value, especially processed products made from durian meat. Golo village community has been able to innovate by utilizing durian superior commodities into main products and derivative products, although there are still very few derivative product variations. This is in line with the opinion of Firdaus and Meutia, (2019) that alternatives need to be found to increase added value and help farmers avoid losses. One alternative is to make innovations in processing durian fruit and utilizing its waste so that added value can be obtained by durian farmers and business actors. Several technological innovations have been carried out including durian flour processing, and the use of durian flour as raw material and flavor and aroma of derivative products, dodol, lempok, and many other wet cakes that can be processed using durian fruit. Furthermore, Aldy and Suryadarma (2019), reported the results of their research that the amount of added value of durian dodol products from watery type of durian is RM 12.48 / kg with every RM 100 product value containing added value of RM 48.75. Al Zuhri et al, (2015) stated that durian fruit is processed into durian flour. Durian flour as an intermediate product can be used as a substitute for wheat flour in food processing, as a natural flavor in processing cakes, ice cream, cokies or other pastries, because the taste and aroma of durian is very strong.Corn can be utilized as the main product in the form of flour and derivative products in the form of processed cake bases and pastries. Firmansyah, (2005) states that corn in the form of flour is more flexible, more durable, practical, can be enriched with nutrients (fortification), and faster to cook in accordance with the demands of modern practical life. Furthermore, Rosmisari, (2006) states that various processed foods can be made from corn flour such as cookies. Cookies do not require ingredients that can expand in volume (high gluten content), so they can utilize corn flour which only contains <1% gluten.

CONCLUSIONS AND RECOMMENDATIONS

The results showed that the highest LQ value was found in banana commodities (1.562), and followed by coconut commodities (1.544), nutmeg (1.243), corn (1.240) as a base sector and durian (0.116) non-base sector. Coconut, Nutmeg, Banana, Durian and Corn are five types of superior commodities owned by Golo Village, West Halmahera Regency, North Maluku Province which are utilized into main products and derivative products, namely Banana into banana

flour, banana chips, fried banana, banana cake. Coconut into coconut milk, coconut oil, coconut unti then make derivative products such as VCO, various pastries, biapong cakes filled with unti. Nutmeg becomes nutmeg flesh, nutmeg seeds, nutmeg mace becomes derivative products in the form of base and dry sweets, syrup, medicine, cooking spices. Bananas become banana flour, banana chips, fried bananas, banana cakes. Durian, using durian flesh to make Asida durian cake, Dodol durian and durian number cake. Corn, using corn meat to make corn flour, cakes, corn cakes. In this way, the Golo village community has been able to innovate in the use of superior commodities into high-end products with selling value.

FURTHER STUDY

This research was only conducted in one village, namely Golo Village. So in the future, it is hoped that there will be research covering similar topics in other villages in West Halmahera Regency.

ACKNOWLEDGMENT

The researcher would like to express his gratitude to the Faculty of Teacher Training and Education, Khairun University and all parties who have supported and facilitated this research so that it can run well.

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