

## **Development of Superior Commodities of The Agricultural Sector at The Source of Innovation and Creativity of Food Product Toward The Sustainable Southeast Sulawesi Regional Economy**

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**Abstract.** *The sustainable coordinated economic system between the society and regional government becomes one of the causes of the low disparity in natural resources management, especially in the agricultural sector. Kabawo and Parigi districts are two districts of development located in Muna Regency, Southeast Sulawesi. Both districts have an excellent prospect in agricultural commodities. This research aimed to know the potential development of superior agricultural commodities in both districts as the innovation and creativity food products in sustaining regional economy by the mobility of population between districts. This study used location quotient (LQ) analysis to determine the superior subsector or economic base of an economic area and descriptive qualitative analysis to measure the level of interaction and easy access based on the number of population and the distance in the doing the activity. The results showed that peanut and cassava were two basic sectors in Kabawo Districts with LQ value 1.05 and 1.06 respectively, meanwhile, Parigi Districts' basic sectors were rice and corn with LQ value 1.05 and 1.09 respectively. The accessibility for the community in marketing their products is dominated by Kabawo Districts. This is supported by distance from Kabawo Districts to the Regency city is 35 Km and the number of population traveling is 14,805 people while Parigi Districts are 12,538 number of population and 50 Km to the Regency.*

**Keywords:** *Agricultural Sector, Development, Food Production Superior Commodities*

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Date of Submission: 28-06-2021

Date of Acceptance: 08-07-2021

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### **I. Introduction**

The long-term agriculture development program directed towards the increase, development, and utilization of national agricultural sources and potential can become an economic activity that contributes to the nation's foreign exchange, wide and equal business opportunity, and employment opportunity for the local community and boost regional development. In regards to this, food security is one of the leading factors towards economic stability. As a result, the effort to fulfill the need for food becomes the framework that pushes the development in other sectors.

Food security is built on three pillars: food availability, access to food, and utilization. The availability of food physically in the area can be obtained through local production, import, and food aid. The analysis on food availability and access to food becomes the strategic development phase for it is needed to evaluate the stability of food.

Therefore, the region's autonomy becomes the step in a comprehensive regional development plan to develop the superior commodity of the agricultural sector, especially that can be the source of innovation and creativity of food production with the hope to increase the added value and also reduce the development disparity between region's that still causes problems.

Priority of agricultural commodities in Southeast Sulawesi Province using a combination of AHP (Analytical Hierarchy Process) and Borda Count (BC) shows that districts have different priority commodities depending on agroecological characteristics and socio-economic conditions (Saediman, 2015)

Muna Regency's economy still relies on the agricultural sector, continues to promote the development of agricultural commodities (food crops, horticulture, and fruits) that have potential market share, thereby spurring economic growth and empowering the people's economy.

This area allows it to be developed as a production center for several agricultural commodities for export marketing purposes. The handling of potential development of agricultural commodities needs to be encouraged so that they can grow and develop into new centers of activity in cultivating, producing, accommodating, and processing various agricultural commodities as food sources that can be marketed to a wider area.

Kabawo District and Parigi District are two districts that have potentials development because they have large agricultural areas as much as 2,827.59 Ha of the total area 255.98 Ha and 134.81 Ha. Besides that, the majority of the population rely on agriculture especially food crops (rice, secondary crop (phaladwija), corn, cassava, and peanut), horticulture including vegetables (spinach, red chili, tomato), fruits (rambutan, langsung, pineapple, mango, cashew) and also livestock including cow and chicken (CBS Muna Regency, 2016).

The commodity that becomes the potential of the superior agricultural sector in both districts and the development and accessibility that support the mobility of population are the problems to be discussed. The intervention of the Departement of Agriculture in Muna Regency along with the representative from the farmer group and agricultural counselor in promoting the programs by the Ministry of Industry and Commerce to build a factory to process the cassava into chips become the solution of potential development toward the increase of productivity, innovation and creativity of domestic food sources. Therefore, some variables such as regional potential aspects, obstacles, opportunities, and the environmental condition that support the sustainable basic commodities sector development plan are to be considered. This phenomenon is an interesting area to be analyzed in terms of the potential superior commodity development of the agricultural sector in Muna Regency especially in Kabawo District and Parigi District that can be the source of innovative and creative food production from the point of accessibility of potentials utilization towards the population's mobility.

Agricultural development that utilizes the potential of natural resources following regional agroecosystems in meeting the needs and improving the welfare of farmers is part of the sustainable development process. Agricultural development will be more optimal if it is combined with the management of superior commodities in various agricultural sub-sectors, both plantation, horticulture, and food commodities as a study conducted by Nainggolan (2011) on the role of superior commodities for the development of food crops to create food self-sufficiency in Toba Samosir Regency. concluded that 1) this region has 3 (three) types of leading commodities that can be identified, namely lowland rice, corn, and peanuts. 2) Agricultural development that focuses on superior commodities will create an agriculture that is efficient, economically valuable, socially accepted by the community, and environmentally friendly, 3) Sustainable agriculture will increase environmental sustainability through the soil, water, and plant conservation.

Thus, the development of leading commodities in the agricultural sector will promote regional economic growth based on an analysis of the economic base and sector performance. Food crops, smallholder plantations, vegetables, fruits, aquaculture, and fishing sub-sectors are the six sub-sectors of agriculture that are superior and have the potential to be developed in Karimun Regency which is significant in the regional economy (Nano Prawoto, 2010). This was stated by Nela (2020) that about 89 percent of the variables in the agriculture, livestock, hunting and services sub-sectors, forestry sub-sectors, and fisheries sub-sectors had a positive and significant impact on economic growth in the province of North Sumatra.

Regional development based on superior commodities will facilitate agribusiness development efforts. Leading commodities will be easier and more rational to develop if you look at superior commodities from market needs. If you classify superior commodities based on their market potential, the success of leading commodities can be measured by their role in providing added value for business actors, contributing to the development of economic structure, and meeting community needs. (Yuhana, 2008).

Along with this, Rosnawintang (2016) in his research suggests that the priority of developing commodities/businesses in spurring economic growth and employment in North Kolaka Regency, Southeast Sulawesi Province by sector, needs to be prioritized for its development in the food crop sector, plantation crops, livestock, fisheries, industry, trade, tourism, and transportation services, while cross-sectoral development that needs to be prioritized is cocoa, cloves, deep coconut, vanilla, pepper, agricultural products trade, and shopping businesses

Moreover, intervention from the government in terms of the policy is needed. The intervention can be directed to not only the organizational aspect (agricultural organization, agricultural industry, and trade center), however, the social and cultural points also play an important role in the development process.

This is a correlation with the unity of resource, production, and shelter that have the functional connection with the surrounding area in which enables the utilization of resources owned to produce the commodity and service with global value (Ambardi, 2006).

Viewing from the economic point, the growth of a region according to Adisasmita (2004) is reflected on the increase of economic volume from a spatial subsystem followed by the increase of commodity number to be used for regional development and increase of basis sector that can add the income from outside to inside.

Accessibility and domestic transportation to support the agriculture potency is defined by Black J.A (in Ofyar, 2003) as the concept of combining land infrastructure system geographically with the system transportation network. Furthermore, Taringan (2004) states that accessibility is the easy way to reach a city from another city due to close distance, or the easiness to get to the area where the people reside. Several aspects influence the level of accessibility such as the distance and travel duration.

Accessibility analysis can be used by the social and economic service bureau to determine the units of settlement that unreachable (isolated area) to gain data on the level of accessibility between the local people who well in a settlement to enjoy the facilities provided (Ambardia, 2006). Moreover. Accessibility can be illustrated by distance where if one place is near to the other, the accessibility between both places is high and vice versa (Salim, 2004).

Transportation as one of the variables that affect the economic growth is very important in improving accessibility from one place to the other as Owen (in Button, 2003) asserts that domestic market occurs is caused by improvement of transportation service to boost the national economic development.

## **II. Materials and Methods**

This research was conducted in Kabawo and Parigi sub-districts, Muna district. This research was conducted purposively because it was representative of the northern and southern development areas. This research was conducted from June to December 2020

The sampling technique was carried out by taking representatives of the northern and southern development areas of Muna Regency with almost the same regional characteristics and characteristics. The object of this research includes agricultural resources, plantation resources, land area, production, road infrastructure, and agricultural institutional aspects.

The focus of this research was to identify commodities that become the leading potential of the agricultural sector in the two development areas and to examine the accessibility of the potential utilization of the agricultural sector in supporting population mobility between development areas, Muna Regency. The data analysis method used in this study is the location query (LQ) analysis method applied by Kuncoro (2004) to determine the leading sub-sector or economy the basis of a regional economy and analysis of gravity to determine the utilization of the superior potential of the agricultural sector in supporting population mobility between regions.

Location Quotient (LQ) analysis by presenting a relative comparison between the capabilities of the same sector in a wider area (Kuncoro, 2004) by having the formula formulation

$$Q = \frac{Xr/Rvr}{Xn/Rvn} \text{ atau } \frac{Xr/Xn}{Rvr/Rvn}$$

Information :

Xr = Agricultural Production Value in a year I investigated at the sub-district level.

Rvr = Total agricultural production at the sub-district level

Xn = Value of agricultural production in a year I investigated at the district level.

Rvn = Total agricultural production at the district level

The above formulation is:

a. LQ > 1, is the base sector, meaning that the sector can meet the needs of its region, and needs outside its territory.

b. LQ < 1, is a non-basic sector, meaning that the ability of the sector can only meet the needs of its region, while other regions cannot.

c. LQ = 1, it means that the level of specialization of the agricultural sector at the sub-district level is the same as the same sector at the district level.

While answering the second problem formulation, how is the accessibility of utilizing the superior potential of the agricultural sector in supporting population mobility between the development areas of Muna Regency, Qualitative Descriptive Analysis is used to measure the level of interaction and ease of accessibility based on population and distance with gravity analysis.

$$Tij = \frac{Pi \cdot Pj}{(j)^2}$$

Information :

Tij = Interaction of region i and j

Pi = Total population of area i

Pj = Total population of the area

J = Total agricultural production at the district level

With units of person/km, while the size of the Tij value ranges from 0-100

### III. Result and Discussion

Geographically, Muna Regency is located and Buton Island, and other small islands surrounding it. Astronomically, Muna Regency position is at 4° 15'LS-4° 30'south latitude and 122° 15'BT-122° 00' east longitude with a land size of 2,964.06 Km<sup>2</sup> or 296.406 Ha divided into 23 districts comprised of 205 villages, 32 sub-districts and three units of Transmigration Settlement (UPT). In total, there are 239 villages, sub-districts, and UPT. Kabawo District is around 255.98 Km<sup>2</sup> with 14 village/sub-districts while Parigi District is around 134.81 Km<sup>2</sup> with 12 village/sub-districts.

The Kabawo District population increased from 13,975 people to 14,805 in 2014-2018, meanwhile Parigi District's population increase from 11,683 people to 12,538 in 2014- 2018.

The structure of population based on the employment opportunity in Kabawo District and Parigi District includes industry, construction, merchant, transportation and communication, finance, service, and civil servant. The agricultural sector becomes the main source of income dominated by two development regions around 57.83 % in 2014, while the least is in the financial sector around 0.3% or 322 people.

The agricultural enterprise managed by the local community at Kabawo District includes peanut, cassava, and other commodities such as rice, sweet cassava, banana, and mango.

Peanut and cassava are the primary agricultural products in Kabawo District based on the number of products every year (2013-2018) that experience an increase. Peanut experience an increase in 2013-2018, from 13,252 to 16,502 tons in an area of 2,155 Ha, similarly, cassava production increased from 1,355 to 1,955 tons per the year 2018 with the harvested area of 1,755 Ha.

The agricultural business managed by the community in Parigi District includes rice, corn, and other commodities such as cassava, sweet cassava, pineapple, and rambutan. Rice is the primary product based on the number of products every year (2016-2018). Rice production increased from 1,770 to 2,459 tons in area 461 Ha. Meanwhile, corn also increased from 375 to 420 tons in an area of 493 Ha.

Transportation is an important part of the smooth economic activity in the region that affects the population mobility in marketing their products. The road is 1,352.46 Km comprised of 268.50 Km provincial road and 1,083.96 regency road with the asphalt around 10 Km and width 8 m., meanwhile Parigi District is around 12 Km width 8 m where it is initially still under maintenance.

Based on the above illustration, the road construction in Kabawo District is better than in Parigi District. This play is an important part of the mobilization from the district to the regency capital city. The number of people traveling from Kabawo district is large due to the short distance and the facilities compared to the Parigi District.

Kabawo District has 8 KUD units comprised of 5 farmer groups: (1) main group, (2) middle groups, and (3) agricultural organizations i.e 2 units of farmer cooperative and 1 unit of agricultural counselor that support the marketing activity to prevent any problems.

Similarly, Parigi District has 5 KUD units, 1 unit of Koperasi Tani and 1 Balai Penyuluh Pertanian with 4 groups (2 beginner group and 1 main 1 intermediate groups) thus, this phenomenon led to the importance of the existence of these units in supporting the development of the superior agricultural product of the two districts. LQ analysis is used to know the extent of sector specialization that has the superiority to be developed. The value of LQ in Kabawo District shows that cassava is superior to peanuts (1.06 vs 1.05 respectively). This is influenced by the climate, topography, average production at district and regency levels, and agricultural units.

Meanwhile, LQ for the superior commodity in Parigi District is rice (1.05) obtained from the comparison between the rice production at the district level in the last three years (2016-2018) and the production at the regency level in the last three years (2016-2018). As for corn, its LQ is 1.05 obtained from the comparison between the products in the last three years (2016-2018) at the district and regency levels.

Thus, it can be concluded that the LQ value for each commodity in both developing regions (Kabawo District and Parigi District) is more than 1 as a basic sector. It means that there is an ability of the sector to fulfill the need inside and outside of the region.

The level of interaction and easy access is based on the number of people doing the movement. Population movement in Kabawo District is large than Parigi District with 14,805 people traveling and its short distance of 35 Km to the Muna regency. Meanwhile, Parigi District is 50 Km away with 12,538 people traveling. It can be concluded that the population accessibility from district to the regency is quiet potential with the adequate facilities and agricultural products to be marketed

#### IV. Conclusion

Based on the above discussion, it can be concluded that :

1. The commodity that becomes the basis sector in Kabawo District peanut and cassava with LQ 1.05 and 1.06 respectively. Meanwhile in Parigi District is rice and corn with LQ 1.05 and 1.09 respectively
2. The population mobility access in marketing the product toward the economic activity is more dominated by Kabawo District than Parigi District. This is affected by the travel distance and number of the population traveling. It's 35 Km from Kabawo District to the regency capital with 14.805 people traveling while it is 50 Km from Parigi District to the capital regency with 12.538 people traveling.

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Syamsinar, et. al. "Development of Superior Commodities of The Agricultural Sector at The Source of Innovation and Creativity of Food Product Toward The Sustainable Southeast Sulawesi Regional Economy." *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, 14(7), 2021, pp. 17-21.