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# Identification of Leading Commodity Areas in the Agricultural Sector Based on Historical Data and Land Suitability

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**ABSTRACT**

*In determining the utilization of the area, many government regulations have been made from the Central, Provincial, and Regional levels using a production data approach. However, it is getting different results with the same slice. The purpose of the study is to identify areas and determine priority agricultural commodities for food crops, horticulture, and plantation groups in Pasaman Regency. Analytical techniques used in Pasaman Regency are LQ analysis, shift share (SS) analysis, and field observation with a stakeholder approach. Based on the research, it is found that LQ and SS were able to determine the leading commodities of food crops, horticulture, and plantations in Pasaman Regency. The main food crop is corn, with the central development area in Tigo Nagari District. The superior horticultural crops and their development areas are chilies in Panti District and mangoes in Mapat Tunggul. The main plantation crop is rubber in a central development location in South Rao District.*

## 1. INTRODUCTION

For better development, the arrangement of district/city priority areas has the potential to impact the economy, society, culture, and the environment. The potential economic zones help boost economic growth in the surrounding region (Sayyidi & Fawaid, 2021). District/ city spatial planning is usually contained in regional spatial plans or more detailed needs, implemented in detailed spatial plans with an orientation towards spatial allocation for growth, welfare, and sustainability of resources, including in agriculture for agricultural areas (Inggriani *et al*., 2021; Pamungkas, 2021).

Agricultural designation areas are usually divided into 4 (four), food crops, horticultural crops, plantation crops, and animal husbandry (Permentan, 2009). Superior products are the commodities that will benefit the region if developed sustainably (Setiyanto, 2013; Wahyuningsih *et al*., 2020). Gross regional domestic product (GRDP) and commodity production and productivity data are references in determining superior commodities in a

region (Laila &; Santoso, 2014; Oksatriandhi & Santoso, 2014; Yolamalinda, 2015; Annisa & Santoso, 2019; Suryani *et al*., 2019; Syahputra *et al*., 2020; Anggarawati & Suwarnata, 2020).

GRDP and production data are qualitative and quantitative references, while land support for developed commodities is needed to see further. Regional arrangement reference to land evaluation based on biophysical characteristics strongly supports sustainable commodity development (Rahadi *et al*., 2015; Ridayanti *et al*., 2020).

Pasaman Regency has an area of 3,947.63 km2 and is one of the regencies in West Sumatra Province directly adjacent to North Sumatra Province and Riau Province. Land use in Pasaman Regency is dominated by vegetated land, includes food crops, horticulture, plantations, livestock and fisheries. So that the movement of the economy is still heavily influenced by this sector, reinforced by the fact that Pasaman Regency's GRDP makes the largest contribution to the agricultural based on an average of 5 years (2014 - 2018) which last reached 51.12% (BPS, 2021). From the agricultural sector, when viewed from the distribution of sub-food crops is the largest contribution 16.05% in 2015, followed by annual horticultural crops and plantation crops.

Determination of regional utilization has been made by several government regulations from the Central, Provincial, and Regional levels with a production data approach, but get different results with the same intersection. The Decree of the Minister of Agriculture of the Republic of Indonesia Number: 472/Kpts/RC.040/6/2018 concerning the location of the National Agricultural Area, Pasaman Regency there are two food commodities, namely rice and soybeans. Then, the Decree of the Governor of West Sumatra Number: 521.305.2013 dated March 26, 2013, concerning the Determination of Food Crop and Horticulture Agricultural Areas of West Sumatra Province. Rice food crops in Pasaman Regency are based on more production data than other food commodities, but when viewed from the trend of data sourced from BPS, there is a decrease. It means that the determination based on data alone is not enough, it needs to be seen further about the suitability of commodity land and Pasaman Regency government space use regulations. The purposes of the study are to identify areas and determine the leading agricultural commodities of food crops, horticulture, and plantations that are priorities in Pasaman Regency.

## 2. MATERIALS AND METHODS

The approach in the analysis of determining agricultural area maps starts from qualitative and quantitative analysis of data available in related agencies/agencies, including: Pasaman Regency GRDP, BPS statistical data, production data and infrastructure facilities of the Agriculture Office, soil type data with its attributes, climate data, landscape data and other data needed to support the analysis carried out.

The analytical techniques used to identify the leading commodities in Pasaman Regency were carried out by LQ analysis, Shift Share (SS) analysis, and field observation with a stakeholder approach which is use to obtain support from local governments and other relevant stakeholders in the context of implementing activities through semi -structured interviews. Prepare a guideline of core questions to be continued and developed spontaneously according to the development of the interview situation undertaken. The spatial analysis begins with a detailed land survey with points determined based on soil type maps.

### 2.1. Location Quotient (LQ) Analysis

The use of LQ analysis aims to classify regions for certain commodities, whether they include sectors that are considered base or not in an area area (Annisa & Santoso, 2019; Laila & Santoso, 2014; Novitasari & Ayuningtyas, 2018; Oksatriandhi & Santoso, 2014; Rizal & Rahmawati, 2014; Safitri *et al*., 2020; Syriac *et al*., 2019; Yolamalinda, 2015).

$$LQ = \frac{X_{ik}/X_k}{X_{ip}/X_p} \quad (1)$$

where $X_{ik}$ = commodity productivity *i* in district *k*; $X_k$ - total commodity productivity in district *k*; $X_{ip}$ - commodity productivity *i* in the district; $X_p$- total productivity of commodity *i* in the district.

### 2.2. Shift Share (SS) Analysis

The shift-share analysis is used to determine the productivity of the local economy and compare it to a larger area. Shift-share analysis divided into three methods: regional share growth (RSG), proportional growth (PG), and net growth (NG) (Ramadhani & Yulhendri, 2019; Safitri *et al*., 2020).

$$RSG = ri\left(\frac{ri'}{ri} - \frac{nt'}{nt}\right) \quad (2)$$

where *ri* = commodity productivity *i* in district *k* early years; *ri*'= commodity productivity in district *k* final year; *nt* = commodity productivity *i* in early year districts; *nt*' = commodity productivity *i* in final year districts.

$$PG = nt\left(\frac{nt'}{nt} - \frac{Nt'}{Nt}\right) \quad (3)$$

where nt = commodity productivity i in early year districts; nt' = commodity productivity in final year districts; Nt = the total productivity of commodities i in the initial year; Nt' - the total productivity of commodity i in the final year district.

$$NG = RSG + PG \quad (4)$$

If the calculation results get a NG value of > 0 shows that the commodity has progressive growth; NG ≤ 0 shows that the commodity has non-progressive growth.

### 2.3. Land Suitability Analysis

*2.3.1. Land Map Unit (LMU)*

The land map unit is prepared based on land slopes obtained from DEMNAS BIG, land types obtained from PUSLITANAH Bogor, and land use of Pasaman Regency from RBI BIG Digital Data. LMU will be used for physiographic surveys (coordinates, surface flow, drainage, inundation / flooding, erosion, erosion hazards, PL, moisture and soil temperature, as well as relief and slopes) and morphology (soil horizon) at each sample point in the field spread throughout the administrative area.

Making LMU begins with the availability of spatial data, a preliminary analysis of all available spatial data is carried out to adjust the projection system of administrative limits and adjustments to spatial data attributes as needed finally overlay (intersect) on spatial data. In order for the direction to be more in line with the applicable spatial regulations in Pasaman Regency, it needs to be limited to the Regional Spatial Plan

(RSP) also the designation of forest areas so that the results are in line with applicable regulations. After the correction of limiting factors, the formation of LMU is available in Pasaman Regency, but this is not final because it is necessary to consider the condition of the field to be observed in order to validate the condition, it is necessary to sort the condition of the LMU to be observed. For those whose slopes of more than 15% are not sample objects because to be drawn on the suitability of commodities both food, horticulture, and gardens the majority are already in class S3, then land cover in the form of forests is also excluded from the location under observation, until 97 LMU representative points are obtained as in Figure 2 color degradation shows the difference in LMU.

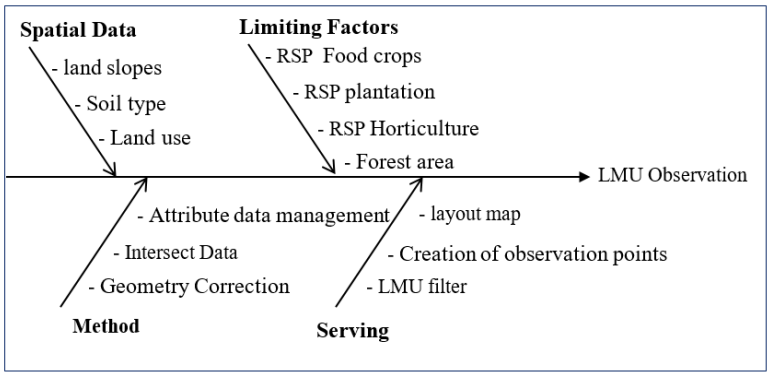


**Figure 1.** Creation of observation LMU

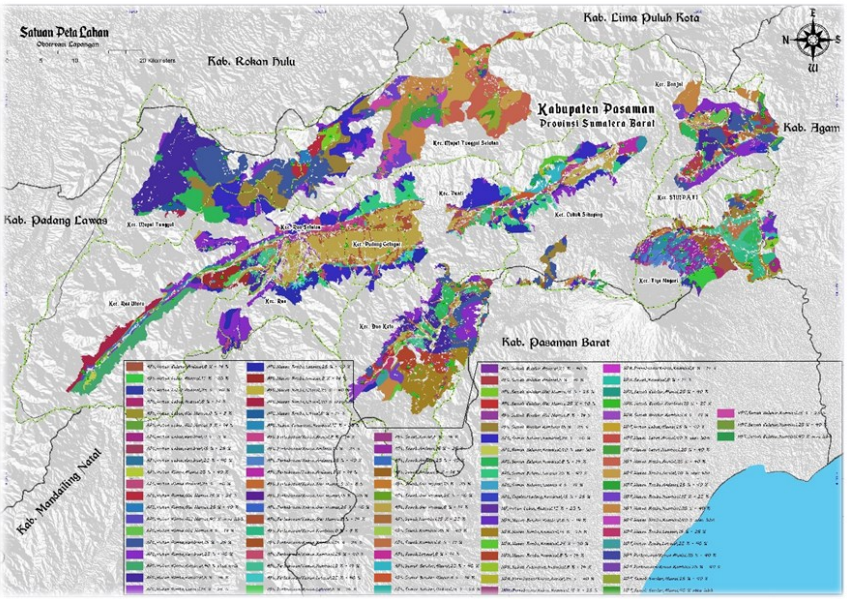


**Figure 2.** LMU and survey point distribution

Soil samples from the survey based on Figure 2 were analyzed at the Soil Physics laboratory of Andalas University to obtain parameters of pH, CEC, C-Organic, N-total, P2O5, and K as a correction to soil physics and chemistry data already owned from the Bogor Soil Research Center on a scale of 250,000.

*2.3.2. Land Evaluation*

The land evaluation was conducted by following the land evaluation guidelines issued by the Ministry of Agriculture's BBSDLP for commodities in Pasaman Regency. Growth required by each has a minimum, optimum, and maximum range for each land characteristic. Optimum land quality for crop needs or land use is a class boundary, the most suitable land suitability (S1). Land quality below optimum is the land suitability class boundary between moderately suitable (S2) and marginally (S3) classes. Outside these limits are physically unsuitable lands (N) (Djaenudi *et al*., 2002). Assessment is the value of each land parameter to determine land suitability. The value given to each parameter used for land suitability criteria is carried out in geographic information system applications.

**2.4. Commodities Evaluated**

Based on the Decree of the Minister of Agriculture of the Republic of Indonesia Number 472/Kpts/RC.040/6/2018 concerning the Location of the National Agricultural Area of Pasaman Regency is designated as the center of commodities: rice, soybeans, cocoa, and rubber.

**3. RESULTS AND DISCUSSION**

**3.1. LQ and SS Agricultural Sector**

LQ and SS methods have also been used in determining the growth centers of Pasaman Regency. As a result, Lubuk Sikaping District is the center of activity (Syahputra *et al*., 2020). Based on the analysis of GRDP for the agricultural sector with LQ and SS, Pasaman Regency has progressive results on horticultural commodities, especially salak (Suryani *et al*., 2019; Yolamalinda, 2015). Agricultural food crops that are the base sector are rice spread across 8 (eight) districts, namely Bonjol, Lubuk Sikaping, Dua Koto, Panti, Padang Gelugur, and Rao. North Rao and South Rao District. It is also in line with the results of research (Oksatriandhi & Santoso, 2014). To find out more details about the types of base and non-base crops in each sub-district in Pasaman Regency based on LQ analysis can be seen in Table 1.

**Table 1.** LQ food commodities

| No. | Sub-district | Rice | Corn | Cassava | Sweet Potato | Mung Bean | Peanut |
|---|---|---|---|---|---|---|---|
| 1 | Tigo Nagari | NB | Base | NB | NB | Base | NB |
| 2 | Bonjol | Base | NB | Base | Base | NB | NB |
| 3 | Simpati | NB | Base | Base | Base | Base | Base |
| 4 | Lubuk Sikaping | Base | NB | Base | Base | Base | Base |
| 5 | Dua Koto | Base | NB | Base | Base | NB | Base |
| 6 | Panti | Base | NB | NB | NB | NB | NB |
| 7 | Padang Gelugur | Base | NB | NB | NB | NB | NB |
| 8 | Rao | Base | NB | NB | NB | NB | Base |
| 9 | Rao Utara | Base | NB | NB | NB | NB | Base |
| 10 | Rao Selatan | Base | NB | NB | NB | NB | NB |
| 11 | Mapat Tunggul | NB | Base | NB | NB | NB | NB |
| 12 | Mapat Tunggul Selatan | NB | Base | Base | NB | NB | Base |

Agricultural commodities in Pasaman Regency that grow progressively in food crops are peanuts spread across 5 (five) districts, namely Lubuk Sikaping, Dua Koto, and Rao. North Rao and South Mapat Tunggul Districts. The data from the SS analysis of food commodities in Pasaman Regency are presented in Table 2.

**Table 2.** SS food commodities

| No. | Sub-district | Rice | Corn | Cassava | Sweet Potato | Mung Bean | Peanut |
|---|---|---|---|---|---|---|---|
| 1 | Tigo Nagari | NP | P | NP | NP | NP | NP |
| 2 | Bonjol | NP | NP | NP | NP | NP | NP |
| 3 | Simpati | NP | P | NP | NP | NP | NP |
| 4 | Lubuk Sikaping | NP | NP | P | P | P | P |
| 5 | Dua Koto | NP | NP | NP | P | NP | P |
| 6 | Panti | NP | NP | NP | NP | NP | NP |
| 7 | Padang Gelugur | NP | NP | NP | NP | NP | NP |
| 8 | Rao | NP | NP | NP | NP | NP | P |
| 9 | Rao Utara | NP | NP | NP | NP | NP | P |
| 10 | Rao Selatan | NP | NP | NP | NP | NP | NP |
| 11 | Mapat Tunggul | NP | P | NP | NP | NP | NP |
| 12 | Mapat Tunggul Selatan | NP | P | NP | NP | NP | P |

NOTE: NP (non-progressive); P (progressive)

Agricultural commodities in Pasaman Regency, the main horticultural sectors are cayenne spread across 8 (eight) districts, namely Simpang Alahan Mati District, Dua Koto, Panti, Padang Gelugur, Rao, North Rao, Mapat Tunggul and South Mapat Tunggul District. To find out more details about the types of base and non-base plants in each sub-district in Pasaman Regency can be seen in Table 3.

**Table 3.** LQ of Horticultural Commodities

| No. | Sub-district | Shallot | Chili | Cayenne | Potato | Cabbage | Tomato | Garlic |
|---|---|---|---|---|---|---|---|---|
| 1 | Tigo Nagari | NB | Base | NB | NB | NB | Base | NB |
| 2 | Bonjol | Base | Base | NB | NB | NB | NB | NB |
| 3 | Simpati | NB | Base | Base | NB | NB | NB | NB |
| 4 | Lubuk Sikaping | Base | NB | NB | NB | Base | Base | Base |
| 5 | Dua Koto | NB | NB | Base | Base | NB | NB | Base |
| 6 | Panti | Base | Base | Base | NB | NB | NB | NB |
| 7 | Padang Gelugur | Base | NB | Base | NB | NB | NB | NB |
| 8 | Rao | NB | Base | Base | NB | NB | NB | NB |
| 9 | Rao Utara | NB | NB | Base | NB | NB | NB | NB |
| 10 | Rao Selatan | NB | NB | NB | NB | NB | Base | NB |
| 11 | Mapat Tunggul | NB | Base | Base | NB | NB | NB | NB |
| 12 | Mapat Tunggul Selatan | NB | Base | Base | NB | NB | NB | NB |
| 13 | Tigo Nagari | NB | Base | NB | NB | Base | NB | |
| 14 | Bonjol | NB | Base | NB | Base | NB | NB | |
| 15 | Simpati | NB | NB | Base | NB | NB | NB | |
| 16 | Lubuk Sikaping | NB | Base | NB | Base | Base | Base | |
| 17 | Dua Koto | NB | NB | Base | NB | NB | Base | |
| 18 | Panti | Base | NB | Base | NB | NB | NB | |
| 19 | Padang Gelugur | Base | NB | NB | NB | Base | NB | |
| 20 | Rao | Base | NB | NB | NB | Base | NB | |
| 21 | Rao Utara | Base | Base | NB | Base | NB | NB | |
| 22 | Rao Selatan | Base | NB | NB | Base | Base | NB | |
| 23 | Mapat Tunggul | Base | Base | NB | Base | NB | NB | |
| 24 | Mapat Tunggul Selatan | NB | NB | Basis | Base | NB | NB | |

Agricultural commodities in Pasaman Regency that continue to grow progressively in horticultural commodities are cayenne spread across 9 (nine) districts, namely Tigo Nagari District, Simpang Alahan Mati, Dua Koto, Panti, Padang Gelugur, Rao, North Rao, Mapat Tunggul and South Mapat Tunggul District. Find more details about the types of progressive and non-progressive plants in each sub-district in Pasaman Regency, is in Table 4.

**Table 4.** SS Horticultural Commodities

| No. | Sub-district | Mango | Durian | Orange | Banana | Papaya | Zalacca | Shallot |
|---|---|---|---|---|---|---|---|---|
| 1 | Tigo Nagari | NB | Basis | NB | NB | NB | Basis | NB |
| 2 | Bonjol | Basis | Basis | NB | NB | NB | NB | NB |
| 3 | Simpati | NB | Basis | Basis | NB | NB | NB | NB |
| 4 | Lubuk Sikaping | Basis | NB | NB | NB | Basis | Basis | Basis |
| 5 | Dua Koto | NB | NB | Basis | Basis | NB | NB | Basis |
| 6 | Panti | Basis | Basis | Basis | NB | NB | NB | NB |
| 7 | Padang Gelugur | Basis | NB | Basis | NB | NB | NB | NB |
| 8 | Rao | NB | Basis | Basis | NB | NB | NB | NB |
| 9 | Rao Utara | NB | NB | Basis | NB | NB | NB | NB |
| 10 | Rao Selatan | NB | NB | NB | NB | NB | Basis | NB |
| 11 | Mapat Tunggul | NB | Basis | Basis | NB | NB | NB | NB |
| 12 | Mapat Tunggul Selatan | NB | Basis | Basis | NB | NB | NB | NB |
| 13 | Tigo Nagari | NB | Basis | NB | NB | Basis | NB | |
| 14 | Bonjol | NB | Basis | NB | Basis | NB | NB | |
| 15 | Simpati | NB | NB | Basis | NB | NB | NB | |
| 16 | Lubuk Sikaping | NB | Basis | NB | Basis | Basis | Basis | |
| 17 | Dua Koto | NB | NB | Basis | NB | NB | Basis | |
| 18 | Panti | Basis | NB | Basis | NB | NB | NB | |
| 19 | Padang Gelugur | Basis | NB | NB | NB | Basis | NB | |
| 20 | Rao | Basis | NB | NB | NB | Basis | NB | |
| 21 | Rao Utara | Basis | Basis | NB | Basis | NB | NB | |
| 22 | Rao Selatan | Basis | NB | NB | Basis | Basis | NB | |
| 23 | Mapat Tunggul | Basis | Basis | NB | Basis | NB | NB | |
| 24 | Mapat Tunggul Selatan | NB | NB | Basis | Basis | NB | NB | |

Agricultural commodities in Pasaman Regency, the plantation base sector, are nutmeg spread across 7 (seven) districts, namely Bonjol District, Simpang Alahan Mati, Lubuk Sikaping, Dua Koto, Panti, Rao, Mapat Tunggul District. To find out more details about the types of base and non-base plants in each sub-district in Pasaman Regency can be seen in Table 5.

Agricultural commodities in Pasaman Regency that continue to grow progressively in plantation commodities are nutmeg spread across 7 (seven) districts, namely Bonjol District, Simpang Alahan Mati, Lubuk Sikaping, Dua Koto, Panti, Rao, Mapat Tunggul District. To find out more details about the types of progressive and non-progressive plants in each sub-district in Pasaman Regency, see Table 6.

**Table 5.** LQ Plantation Commodities

| No | Sub-district | Rubber | Cacao | Coffee | Coconut | Oil Palm | Cinnamon | Patchouli |
|---|---|---|---|---|---|---|---|---|
| 1 | Tigo Nagari | NB | NB | NB | NB | Base | NB | NB |
| 2 | Bonjol | Base | Base | NB | NB | NB | NB | Base |
| 3 | Simpati | Base | Base | NB | NB | NB | NB | NB |
| 4 | Lubuk Sikaping | NB | Base | Base | Base | NB | Base | NB |
| 5 | Dua Koto | NB | Base | NB | Base | NB | Base | Base |
| 6 | Panti | Base | NB | Base | Base | NB | Base | Base |
| 7 | Padang Gelugur | NB | Base | Base | NB | NB | NB | NB |
| 8 | Rao | NB | Base | NB | Base | NB | NB | NB |
| 9 | Rao Utara | NB | NB | Base | Base | NB | NB | NB |
| 10 | Rao Selatan | Base | NB | Base | Base | NB | Base | Base |
| 11 | Mapat Tunggul | Base | NB | NB | NB | NB | NB | Base |
| 12 | Mapat Tunggul Selatan | Base | NB | NB | NB | NB | NB | Base |
| 13 | Tigo Nagari | NB | NB | NB | NB | NB | NB | NB |
| 14 | Bonjol | Base | NB | NB | Base | NB | Base | NB |
| 15 | Simpati | NB | Base | NB | Base | NB | Base | NB |
| 16 | Lubuk Sikaping | NB | Base | NB | Base | NB | Base | Base |
| 17 | Dua Koto | NB | Base | Base | Base | NB | Base | NB |
| 18 | Panti | Base | Base | NB | Base | Base | Base | Base |
| 19 | Padang Gelugur | NB | NB | NB | NB | NB | NB | NB |
| 20 | Rao | NB | NB | NB | NB | NB | Base | Base |
| 21 | Rao Utara | NB | NB | NB | NB | NB | NB | NB |
| 22 | Rao Selatan | Base | Base | NB | NB | NB | NB | NB |
| 23 | Mapat Tunggul | Base | NB | Base | NB | NB | Base | NB |
| 24 | Mapat Tunggul Selatan | NB | NB | Base | NB | NB | NB | NB |

**Table 6.** SS Plantation commodities

| No. | Sub-district | Rubber | Cacao | Coffee | Coconut | Oil Palm | Cinnamon | Patchouli |
|---|---|---|---|---|---|---|---|---|
| 1 | Tigo Nagari | NP | NP | NP | NP | NP | NP | NP |
| 2 | Bonjol | P | P | NP | NP | NP | NP | P |
| 3 | Simpati | P | P | NP | NP | NP | NP | NP |
| 4 | Lubuk Sikaping | NP | P | P | NP | NP | P | NP |
| 5 | Dua Koto | NP | P | NP | NP | NP | P | P |
| 6 | Panti | P | NP | P | NP | NP | P | P |
| 7 | Padang Gelugur | NP | P | P | NP | NP | NP | NP |
| 8 | Rao | NP | P | NP | NP | NP | NP | NP |
| 9 | Rao Utara | NP | NP | P | NP | NP | NP | NP |
| 10 | Rao Selatan | P | NP | P | NP | NP | P | P |
| 11 | Mapat Tunggul | P | NP | NP | NP | NP | NP | P |
| 12 | Mapat Tunggul Selatan | P | NP | NP | NP | NP | NP | P |
| 13 | Tigo Nagari | NP | NP | NP | NP | NP | NP | NP |
| 14 | Bonjol | P | NP | NP | P | NP | P | NP |
| 15 | Simpati | NP | P | NP | P | NP | P | NP |
| 16 | Lubuk Sikaping | NP | P | NP | P | NP | P | P |
| 17 | Dua Koto | NP | P | NP | P | NP | P | NP |
| 18 | Panti | P | P | NP | P | P | P | P |
| 19 | Padang Gelugur | NP | NP | NP | NP | NP | NP | NP |
| 20 | Rao | NP | NP | NP | NP | NP | P | NP |
| 21 | Rao Utara | NP | NP | NP | NP | NP | NP | NP |
| 22 | Rao Selatan | P | P | NP | NP | NP | NP | NP |
| 23 | Mapat Tunggul | P | NP | P | NP | NP | P | NP |
| 24 | Mapat Tunggul Selatan | NP | NP | NP | NP | NP | NP | P |

NOTE: NP (non-progressive); P (progressive)

### 3.2. Land Suitability

The leading agricultural commodities in Pasaman Regency are determined from the Location Quotient (LQ) and Shift Share (SS) toward food crops, horticulture, plantations, livestock, and fisheries. Besides, the central location is determined from the percentage of Class 1 (S1) land suitability as the widest commodity. The sequence of leading for Pasaman Regency is in Figure 3. The distribution of land suitability for Pasaman Regency is after the application of biophysical and regulatory limiting factors. The result is in Figure 4. The figure shows the distribution of featured commodities corn for food crops, chili and mango for horticulture, and rubber for plantations. The directions of the area of its development are presented in Table 7.

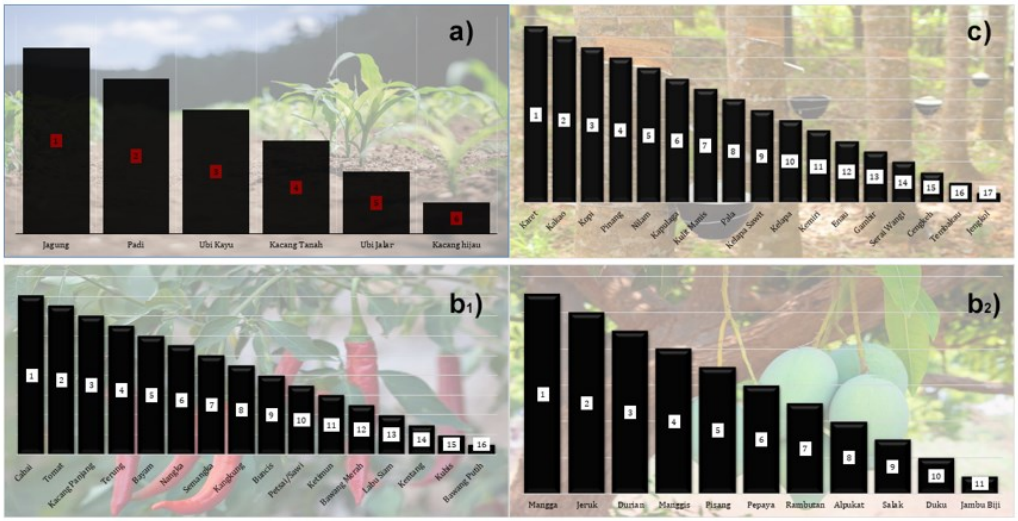


**Figure 3.** Order of agricultural commodities in Pasaman Regency: a) food, b) horticulture, and c) plantations

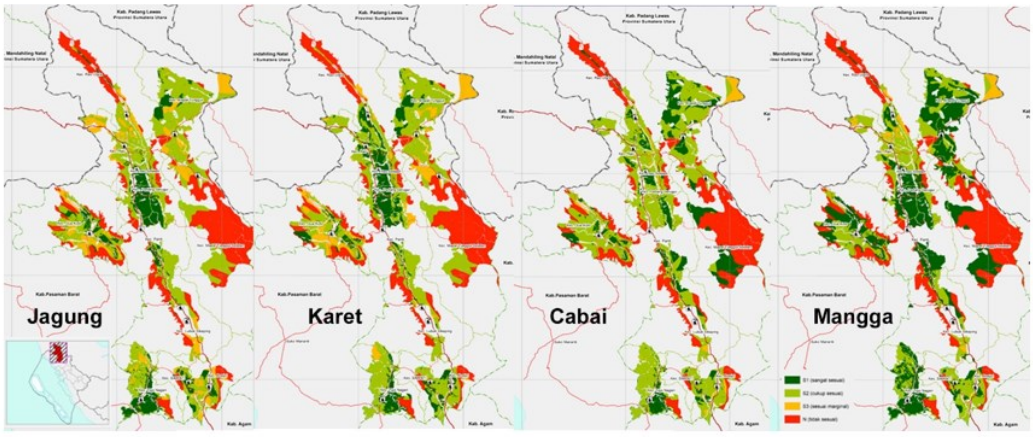


**Figure 4.** Land suitability of Pasaman Regency's leading commodities

**Table 7.** Direction of agricultural leading commodities in Pasaman Regency

| Commodity | Kind | Sub-district | | Urban Village |
|---|---|---|---|---|
| Food | Corn | **Central:**<br>Tigo Nagari<br>Padang Gelugur | **Buffer:**<br>Panti<br>Dua Koto<br>Bonjol<br>Simpati | Binjai<br>Padang Gelugur<br>Bahagia Padang Gelugur |
| Horticulture | Mango | **Central:**<br>Mapat Tunggul<br>Dua Koto | **Buffer:**<br>Rao<br>Bonjol<br>Rao Utara<br>Rao Selatan | Muara Tais<br>Simp. Tonang Utara |
| | Chili | **Central:**<br>Panti<br>Mapat Tunggul Selatan | **Buffer:**<br>Mapat Tunggul<br>Rao Utara<br>Rao Selatan | Panti Selatan<br>Muaro Sungai Lolo |
| Plantation | Rubber | **Central:**<br>Rao Selatan<br>Mapat Tunggul | **Buffer:**<br>Rao Utara<br>Bonjol<br>Padang Gelugur | Lubuak Layang<br>Tais Koto Gadang |

## 4. CONCLUSION

Based on research, it was found that LQ and SS were able to determine the leading commodities in food crops, horticulture, and plantations in Pasaman Regency. Corn is a commodity that can be featured in food crops, while in chili and mango horticulture, the most superior plantation sector is rubber. The location the area for central corn is in Tigo Nagari District, Panti District is the central Chili and Mango in Mapat Tunggul. For rubber plantations, the central location is in South Rao District.

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