Analysis of the advantages of natural resource based economic sub sectors as the basis for regional development policies in Tanah Datar Regency, West Sumatra Province

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Abstract. Tanah Datar is known as an agrarian area with most of the population working in natural resource-based fields, namely agriculture. This is evident in the sectors that play a major role in GRDP, namely the agriculture, forestry and fisheries sectors, but the growth is very small when compared to other sectors. The consequence is seen in the slowdown in the rate of economic growth in Tanah Datar Regency. In addition, the budget allocation for the sector during 2015-2019 was still not a priority and there is still unused agricultural land. This research was conducted to determine the leading sub-sector based on natural resources and the direction of the development of the superior sub-sector spatially in each sub-district in Tanah Datar Regency so that it will later be used as a guideline for policy formulation. The determination of sub-sectors is carried out based on the criteria of competitiveness, basic sector, growth, and sector contribution where each criterion is used shift share analysis method, location quotient (LQ) analysis, growth rate, and sectoral contribution to the next weight obtained compared with the Analytical method. Hierarchy Process (AHP) using Expert Choice 11. The results showed that food crops and horticultural crops were the leading sub-sectors with weights (22.9%) and (14.1%) respectively. Then a spatial development was carried out in the form of mapping in each sub-district according to the superior commodities incorporated in food crops and horticultural crops.

I. Introduction

One of the goals of national development is to achieve fair and equitable economic growth, avoid income disparities and implement regional development. The implementation of development in an area should really pay attention to aspects of regional locality so that in its utilization it is able to encourage the area to grow and develop. This is in line with Nindyantoro (2004) [1] which states that the diversity of regional characteristics has an impact on the differences in the potential they have, thus triggering disparities between regions.

Balanced and equitable development is an expected condition by showing the fulfillment of regional development potentials in accordance with their various characteristics [2]. The achievement of balanced development is part of the important consequences of regional development.

The regional superior sector is a sector that has the potential to increase the economic growth of a region because it has several criteria and advantages over other sectors [3]. Hood (1998) in Hendayana...
(2003) [4] states that leading sectors can be determined by calculating LQ (Location Quotient) and Shift Share using the main calculation, namely knowing the level of competitiveness, knowing the base sector and knowing the growth rate. Furthermore, according to Sambodo (2002) [5] in determining the leading sector can be seen based on the sector's contribution to the regional economy. For this reason, in order to increase economic growth, the development policies carried out must be based on what sectors are superior in a region.

Based on the opinion of Rustiadi et al (2011) [2] stated that the area is a geographical component that has certain limits where each part has meaning in the elaboration of a resource management and planning. Regional development according to Rustiadi et al (2011) [2] is characterized by the development of certain uses of an element of the region, including social, political, cultural, economic, and defense and security uses that have links between regions.

Both developed and underdeveloped regions need the right direction of regional development to increase economic growth and reduce disparities. Absolute imitation of the form of regional development policy in an area may be successful but for other regions it is not necessarily the same [6]. One of the steps taken to improve the economy of the community in an area is to implement a strategy in the form of regional development based on leading sectors.

Economic growth in Tanah Datar Regency is supported by 17 sectors, the sectors that had the largest role in 2019 were agriculture, forestry and fisheries with a percentage of 29.21 percent but the growth compared to other sectors is very small, namely 2.27 percent. Meanwhile, the accommodation and food and drink supply sector experienced the highest growth at 9.29 percent. The decline in the growth rate of the agriculture, forestry, and fisheries sectors also caused a slowdown in the rate of economic growth in Tanah Datar Regency.

Table 1. GRDP of Tanah Datar at 2010 Constant Market Prices by Industry, 2015-2019 (million rupiah)

| GDRP Sector                                                                 | GRDP of Tanah Datar at 2010 Constant Market Prices by Industry |
|------------------------------------------------------------------------------|-----------------------------------------------------------------|
|                                                                              | 2019      | 2018      | 2017      | 2016      | 2015      | 2014      | 2013      |
| Agriculture, Forestry, and Fishery                                          | 2,830,425.00 | 2,767,703.00 | 2,688,955.00 | 2,603,988.00 | 2,575,518.00 | 2,465,574.60 | 2,353,788.60 |
| Mining and Quarrying                                                        | 282,536.00  | 266,507.00  | 251,837.00  | 243,890.00  | 228,662.00  | 213,648.90  | 199,732.40  |
| Manufacturing Electricity and Gas                                           | 1,105,782.00 | 1,091,366.00 | 1,077,249.00 | 1,051,128.00 | 1,000,338.00 | 979,383.30  | 936,043.90  |
| Water supply, Sewerage, Waste Management, and Remediation                   | 2,077.00    | 2,034.00    | 1,959.00    | 1,888.00    | 1,715.00    | 1,644.90    | 1,421.50    |
| Construction                                                                | 11,146.00   | 10,621.00   | 10,362.00   | 10,003.00   | 9,454.00    | 8,967.90    | 8,469.20    |
| Wholesale and Retail Trade; Repair of Motor Vehicles                         | 965,677.00  | 900,114.00  | 835,974.00  | 772,651.00  | 717,818.00  | 677,388.10  | 640,491.80  |
| Transportation and Storage Accomodation and Food Service                    | 1,326,232.00 | 1,245,546.00 | 1,162,700.00 | 1,084,685.00 | 1,014,518.00 | 956,029.20  | 887,412.40  |
| Information and Communication                                               | 919,195.00  | 848,757.00  | 791,816.00  | 736,316.00  | 678,918.00  | 622,862.70  | 575,387.70  |
| Transportation and Storage Accomodation and Food Service                    | 66,058.00   | 60,444.00   | 55,617.00   | 50,871.00   | 47,413.00   | 44,292.80   | 41,796.40   |
| Information and Communication                                               | 574,552.00  | 528,454.00  | 486,040.00  | 451,979.00  | 412,635.00  | 378,386.00  | 350,949.00  |
### GDRP Sector and GRDP of Tanah Datar at 2010 Constant Market Prices by Industry

| Sector                                      | 2019      | 2018      | 2017      | 2016      | 2015      | 2014      | 2013      |
|---------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Financial and Insurance Activities          | 237,862.00| 230,739.00| 227,500.00| 223,925.00| 208,961.00| 199,183.00| 186,962.30|
| Estate Activities                           | 149,943.00| 142,237.00| 136,123.00| 130,989.00| 125,131.00| 118,299.60| 111,018.50|
| Business Activities                         | 3,630.00  | 3,428.00  | 3,259.00  | 3,072.00  | 2,903.00  | 2,741.80  | 2,592.40  |
| Public Administration and Defence; Compulsory Social Activity | 609,034.00 | 567,800.00 | 535,085.00 | 512,931.00 | 489,575.00 | 475,811.20 | 459,543.40 |
| Education                                   | 293,603.00| 271,267.00| 250,059.00| 229,433.00| 211,479.00| 195,351.00| 183,739.10|
| Human Health and Social Work Activities      | 133,053.00| 124,283.00| 115,288.00| 107,466.00| 101,571.00| 93,563.40 | 86,833.10 |
| Other Services                              | 178,903.00| 165,758.00| 152,276.00| 139,857.00| 128,460.00| 119,621.50| 113,267.60|
| GDRP                                        | 9,689,707.00| 9,227,057.00| 8,782,098.00| 8,355,072.00| 7,955,070.00| 7,552,749.70| 7,139,449.20|

Source: Tanah Datar Regency in Figures for 2020

Furthermore, the allocation of direct expenditure on agricultural affairs during 2015-2019 was still not a priority, this can be seen for the allocation of direct expenditure on agricultural affairs as much as Rp74,776,343,860.00, which is in fifth place under Health (Rp750,220,668,396.13) and Education (Rp321,291,867,451.00) which are mandatory and work affairs. General (Rp.508,049,392,589.00) and supporting functions (Rp296,823,010,025.00). Another problem is that in Tanah Datar Regency, in 2019 data from the Tanah Datar Regency Agriculture Service there were still 942 Ha of agricultural land that had not been utilized from a total of 106,543 Ha of agricultural land in Tanah Datar Regency.

This research was conducted to determine the leading sub-sector based on natural resources and the direction of the development of the superior sub-sector spatially in Tanah Datar Regency so that later it will be used as a guideline for formulating policies that have an impact on the economy in Tanah Datar Regency to grow rapidly.

### 2. Materials and methods

#### 2.1. Location and research design

This research was conducted in Tanah Datar Regency, West Sumatra Province. Geographically, Tanah Datar Regency is located at the position of 00° 17' South Latitude - 00° 39' South Latitude and 100° 19' East Longitude - 100° 51' East Longitude. The considerations were made because Tanah Datar Regency is one of the largest contributors to the agricultural sector for the Province of West Sumatra and also as an area where researchers work where the results of research can later be taken into consideration in the formulation of regional development plans. In addition, Tanah Datar Regency is an agricultural area where there are still areas that have not been utilized for agriculture.

#### 2.2. Research Approach and Type

The type of research that will be conducted is quantitative research. The approach taken to answer the problem is by using several data analysis techniques in the form of: 1) Analytical Hierarchy Process (AHP) uses expert choice software analysis tools 11, 2) Location Quotient Analysis, 3) Shift Share analysis, 4) Growth rate, and 5) Sectoral contribution.
2.3. Data Collection
The data used are primary data and secondary data where primary data is obtained from interviews with relevant stakeholders who are competent in the economy in Tanah Datar Regency. Secondary data were obtained from literature books, literature studies, and reading materials related to the issues raised. Sources of data were obtained from the Central Bureau of Statistics of Tanah Datar Regency, Research and Development Planning Agency of Tanah Datar Regency and related agencies related to the problem under study. The secondary data are shp map data, GRDP data, and data on the distribution of leading commodities.

| No | Type of Data                                      | Source                                      |
|----|-------------------------------------------------|---------------------------------------------|
| 1  | Map of Tanah Datar regency shp format           | Baperlitbang of Tanah Datar Regency         |
| 2  | GRDP of Tanah Datar at 2010 Constant Market Prices by Industry | BPS-Statistics of Tanah Datar Regency |
| 3  | GRDP of West Sumatera Province at 2010 Constant Market Prices by Industry | BPS-Statistics of Sumatera Barat Province |
| 4  | Percentage Distribution of Gross Regional Domestic Product in Tanah Datar Regency | BPS-Statistics of Tanah Datar Regency       |
| 5  | Growth Rate of GDRP in Tanah Datar Regency      | BPS-Statistics of Tanah Datar Regency       |
| 6  | Table of distribution of leading commodities in Tanah Datar Regency | Dinas Pertanian of Tanah Datar Regency      |

2.4. Research procedure
The research was conducted in several stages. The first step is to identify the criteria related to the determination of the leading sub-sector. Next, collect all documents (secondary data) related to data related to economic development in Tanah Datar Regency and West Sumatra. The data that has been obtained is analyzed using several analytical techniques by taking into account the criteria. The results of the evaluation of each criterion were then compared using Expert Choice 11 (AHP) in order to obtain what were the leading sub-sectors based on natural resources and then carried out spatial development directions for each sub-district. Researchers will conduct in-depth interviews with competent parties in the economy of Tanah Datar Regency.

3. Result
3.1. Location quotient
Determination of the base sector can be done using data on the GRDP value of each sector; the LQ technique is currently commonly used in the base economy as a starting point to find out what sector is the trigger for economic growth [7].

| No | Sub-sector                | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
|----|---------------------------|------|------|------|------|------|---------|
| 1  | Food Crops                | 1.64 | 1.65 | 1.66 | 1.73 | 1.75 | 1.69    |
| 2  | Horticultural Crops       | 2.26 | 2.29 | 2.28 | 2.34 | 2.31 | 2.30    |
Based on Table 3, it can be seen that there are three sub-sectors of the natural resource-based economy which are classified as the base sector in Tanah Datar Regency. If sorted based on the average coefficient value of the highest to lowest LQ, the horticultural crop sub-sector is ranked first with a value of 2.30, followed by the food crops sub-sector and agricultural and hunting services. These three basic sub-sectors show competitive advantages and great contribution values in the economy of Tanah Datar Regency.

3.2. Shift share analysis
In determining the sub-sector of the natural resource-based economy that has competitiveness, the researcher uses shift share analysis. Shift Share analysis is used to analyze and determine the shift and role of the regional economy by using three elements of National Share, Proportional Shift, and Differential Shift [7]. The following table shows the results of the calculation of Shift Share analysis in Tanah Datar Regency in 2015-2019, namely:

| No | Sub-Sector                              | National growth component | Proportional growth component | Regional growth component | Economic growth |
|----|-----------------------------------------|---------------------------|--------------------------------|----------------------------|-----------------|
| 1  | Food Crops                              | 14.23                     | -8.70                          | 3.85                       | 9.39            |
| 2  | Horticultural Crops                     | 14.23                     | -7.98                          | -0.29                      | 5.96            |
| 3  | Plantation Crops                        | 14.23                     | 2.51                           | -1.92                      | 14.81           |
| 4  | Livestock                               | 14.23                     | 5.39                           | -0.19                      | 19.42           |
| 5  | Forestry and Logging                    | 14.23                     | -9.35                          | -2.72                      | 2.16            |
| 6  | Fishing                                 | 14.23                     | 7.51                           | 1.22                       | 22.96           |
| 7  | Agriculture Services and Hunting        | 14.23                     | -5.98                          | 4.09                       | 12.34           |
| 8  | Other Mining and Quarrying              | 14.23                     | 7.53                           | 1.80                       | 23.56           |
| 9  | Tourism                                 | 14.23                     | 25.28                          | -0.18                      | 39.32           |

Judging from the value of the regional growth component (competitive advantage/competitiveness component), it is known that the sub-sectors that have competitive advantages are food crops, fisheries, agricultural services and hunting and mining and quarrying. The agricultural and hunting services sub-sector is the sub-sector with the highest level of competitive advantage compared to other sub-sectors. The sub-sectors that do not have a competitive advantage are the forestry and logging sub-sectors.

3.3. Sectoral contribution
The sectoral contribution is the role of each sector to the GDP in an area expressed as a percentage. The following table shows the contribution of the natural resource-based economy sub-sector in Tanah Datar Regency.
Table 5. Contribution of natural resource-based economic sub-sectors in Tanah Datar Regency 2015-2019.

| No | Sub-Sector            | Years       | Average |
|----|-----------------------|-------------|---------|
|    |                       | 2015 | 2016 | 2017 | 2018 | 2019 |       |
| 1  | Food Crops            | 38.66 | 37.69 | 37.91 | 38.79 | 37.95 | 38.20 |
| 2  | Horticultural Crops   | 29.01 | 29.03 | 28.87 | 27.36 | 27.58 | 28.37 |
| 3  | Plantation Crops      | 8.38  | 8.55  | 8.59  | 8.69  | 8.63  | 8.57  |
| 4  | Livestock             | 5.07  | 5.15  | 5.09  | 5.18  | 5.43  | 5.18  |
| 5  | Forestry and Logging  | 2.82  | 2.81  | 2.62  | 2.64  | 2.59  | 2.69  |
| 6  | Fishing               | 4.22  | 4.44  | 4.50  | 4.60  | 4.65  | 4.48  |
| 7  | Agriculture Services and Hunting | 2.17 | 2.17 | 2.16 | 2.17 | 2.19 | 2.17 |
| 8  | Other Mining and Quarrying | 8.02 | 8.41 | 8.40 | 8.61 | 8.89 | 8.47 |
| 9  | Tourism               | 1.66  | 1.75  | 1.86  | 1.95  | 2.08  | 1.86  |
|    | **Total PDRB**        | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** |

From the table, it can be seen that the food crops sub-sector has the largest role in the GRDP of Tanah Datar Regency, while the lowest role is the tourism sub-sector.

3.4. Growth rate

The growth rate shows the level of success of the development of a region in a certain period of time. Positive growth indicates an increase in the production of goods and services. The growth rate is obtained by dividing the difference in the value of the sector/sub-sector GRDP of the current year and the previous year and then multiplied by one hundred. The following table shows the growth rate of each sub-sector.

Table 6. The growth rate of each sub-sector of the natural resource-based economy in Tanah Datar Regency in 2015-2019.

| No | Sub-Sector            | Years       | Average |
|----|-----------------------|-------------|---------|
|    |                       | 2015 | 2016 | 2017 | 2018 | 2019 |       |
| 1  | Food Crops            | 4.67  | (0.90) | 3.98 | 5.63 | 0.49 | 2.77 |
| 2  | Horticultural Crops   | 4.67  | 1.75  | 2.79 | (2.16) | 3.54 | 2.12 |
| 3  | Plantation Crops      | 4.67  | 3.70  | 3.87 | 4.55 | 1.96 | 3.75 |
| 4  | Livestock             | 4.67  | 3.29  | 2.16 | 5.18 | 7.60 | 4.58 |
| 5  | Forestry and Logging  | 4.67  | 1.17  | (3.59) | 4.10 | 0.61 | 1.39 |
| 6  | Fishing               | 4.67  | 6.93  | 4.81 | 5.67 | 3.83 | 5.18 |
| 7  | Agriculture Services and Hunting | 4.67 | 1.66 | 3.03 | 3.67 | 3.46 | 3.30 |
| 8  | Other Mining and Quarrying | 7.03 | 6.66 | 3.26 | 5.83 | 6.01 | 5.76 |
| 9  | Tourism               | 7.04  | 7.29  | 9.33 | 8.68 | 9.29 | 8.33 |

Seen in the table above, the tourism sub-sector has the highest growth rate compared to other natural resource-based economic sub-sectors with an average value of 8.33. The forestry and logging sub-sector has the lowest growth rate with an average value of 1.39.

3.5. Analytical Hierarchy Process (AHP)

Analytical Hierarchy Process (AHP) is a way to find activities from many alternatives based on certain criteria [8]. Criteria can be in the form of qualitative and quantitative. The structure of an AHP is the best form of a tree, having a goal at the top of the tree as the goal of the problem. Below the objective
is the leaf component that shows the criteria, both qualitative and quantitative. The Goal weights should be divided among the criteria points based on the rating.

Figure 1. AHP Hierarchical structure.
Source: Researcher illustration, 2021

Based on an interview with the Head of the Economic Section of Tanah Datar Regency, the weighting of each criterion is 10% base sector, 40% competitiveness, 30% sectoral contribution, and 20% growth rate.

3.5.1. Expert Choice. Expert Choice is a software related to the Analytical Hierarchy Process that makes it easy to calculate and visualize as well as sensitivity analysis for decision making. Because the Expert Choice has been equipped with an algorithm, in terms of inconsistency evaluation, it can be easily obtained.

3.5.1.1. Calculation of Weighting for Criteria. From the results of interviews with the Head of the Economic Section of the Regional Secretariat of Tanah Datar Regency, the value of each criterion was obtained. The comparison matrix of these criteria is as follows:

Compare the relative importance with respect to: Determination of the leading sub sector base

|                   | Competitive | Sectoral Contribution | Growth Rate | Base Sector |
|-------------------|-------------|-----------------------|-------------|-------------|
| Competitiveness   | 1.0         | 2.0                   | 4.0         |             |
| Sectoral Contribution | 2.0         | 3.0                   |             |             |
| Growth Rate       | 2.0         |                       |             |             |

Incon: 0.00

Figure 2. Weighting criteria.
Source: Expert Choice 11

3.5.1.2. Calculation of Evaluation Indicators for each criterion. Pairwise comparisons for each criterion in nine types of natural resource-based economic sub-sectors, namely pairwise comparisons between the Food Crops sub-sector and the Horticultural Crops sub-sector, plantation sub-sector, livestock sub-sector, forestry and logging sub-sector, fisheries sub-sector, agriculture and hunting services sub-sector, mining and quarrying sub-sector, and tourism sub-sector to arrive at a pairwise comparison between the mining and quarrying sub-sector with the tourism sub-sector.
3.5.1.3. Competitiveness criteria. For the competitiveness criteria, the data from the shift share analysis that has been carried out previously and entered and processed in the expert choice software is as follows:

| Priorities with respect to: | Determination of the leading sub sector based on natural resources | competitiveness |
|---------------------------|---------------------------------------------------------------|----------------|
| Food Crops                | .245                                                          |                |
| Horticultural Crops       | .063                                                          |                |
| Plantation Crops          | .063                                                          |                |
| Livestock                 | .063                                                          |                |
| Forestry and Logging      | .063                                                          |                |
| Fishing                   | .074                                                          |                |
| Agriculture Services and Hunting | .245                   |                |
| Other Mining and Quarrying| .118                                                         |                |
| Tourism                   | .063                                                          |                |
| Inconsistency              | 0.00385                                                       |                |

Figure 3. Pairwise comparison of competitiveness.
Source: Expert Choice 11

From the calculation results, it is found that the Food Crops and Agricultural and Hunting Services sub-sector is the most competitive sub-sector compared to other sub-sectors with a weight of 0.245 or 24.5%. From these calculations, it is also found that the value of CR<0.1 is 0.003 which means the data obtained is consistent.

3.5.1.4. Calculation of evaluation indicators for sectoral contribution criteria. For sectoral contribution criteria, data from the analysis of the role of each sub-sector to the GRDP of Tanah Datar Regency are used and then entered and processed in expert choice software as follows:

| Priorities with respect to: | Determination of the leading sub sector based on natural resources | Sectoral Contribution |
|---------------------------|---------------------------------------------------------------|----------------------|
| Food Crops                | .340                                                          |                      |
| Horticultural Crops       | .279                                                          |                      |
| Plantation Crops          | .086                                                          |                      |
| Livestock                 | .055                                                          |                      |
| Forestry and Logging      | .030                                                          |                      |
| Fishing                   | .055                                                          |                      |
| Agriculture Services and Hunting | .028              |                      |
| Other Mining and Quarrying| .099                                                         |                      |
| Tourism                   | .029                                                          |                      |
| Inconsistency              | 0.01                                                          |                      |

Figure 4. Pairwise comparison of sectoral contribution.
Source: Expert Choice 11

From the calculation results, it is obtained that the Food Crops and Horticultural Crops sub-sector has a very large role in the GRDP of Tanah Datar Regency. From the calculation, it is also obtained that the value of CR<0.1 is equal to 0.001 which means the data obtained is consistent.

3.5.1.5. Calculation of evaluation indicators for growth rate criteria. For the growth rate criteria, the data from the analysis of the growth rate of each sub-sector to the GRDP of Tanah Datar Regency are used and then entered and processed in expert choice software as follows:
The results of the analysis by Expert Choice show that the tourism sub-sector has the highest growth rate compared to other sub-sectors.

3.5.1.6. Calculation of evaluation indicators for base sector criteria. For the competitiveness criteria, the data from the location quotient analysis that has been carried out previously and entered and processed in the expert choice software is as follows:

For the criteria for the Horticultural Crops sub-sector, the base sector has the highest weight at 0.254 or 25.4%, followed by the Food Crops sub-sector at 0.208 or 20.8%.

3.5.1.7. Priority calculation. After evaluating the 4 criteria, namely competitiveness, sectoral contribution, growth rate, and base sector, the next step is multiplied by the priority vector to obtain the following priorities:
Figure 7. Determination of leading economic sub-sectors based on natural resources.
Source: Expert choice 11

3.6. Results and criteria figure

Dynamic Sensitivity for nodes below: Goal: Determination of the leading sub-sector based on natural resources

From the figure above, it is found that the food crops sub-sector is the overall priority with a weight of 22.9%, followed by the horticultural crops sub-sector with a weight of 14.1%. Meanwhile, the last priority is the forestry and logging sub-sector. So from these results, the priority order of the leading sub-sectors based on natural resources in Tanah Datar Regency is obtained using the Analytical Hierarchy Process (AHP) as follows:
1. Crops
2. Horticultural Plants
3. Plantation
4. Farm
5. Forestry and Logging
6. Fishery
7. Agricultural and Hunting Services
8. Mining and excavation
9. Tourist

The leading sub-sector should be the basis of development priorities in Tanah Datar Regency by taking into account the contribution, growth rate, base sector and competitiveness of the sub-sector. The development of the leading-based sub-sector will encourage other natural resource-based sub-sectors to grow to balance the leading sub-sectors that have potential in Tanah Datar Regency. As an economic base in Tanah Datar Regency, the development and development of the food crops sub-sector, horticultural crop sub-sector, as well as the agricultural and hunting services sub-sector will ensure a reduction in disparities, this is because most of the population of Tanah Datar Regency make a living as farmers.

3.7. Spatial development direction

Geographically, each sub-district in Tanah Datar Regency has different aspects of locality or features. This aspect makes each sub-district has different power seen from the diversity of resources and potential. To be able to find out the potential and diversity, it is necessary to map sub-districts based on the potential of the leading sub-sectors. Mapping is done by taking the 2 (two) highest weights from the results of the previous analysis. The identification of the leading sub-sectors in Tanah Datar Regency is shown in Table 6 below:

| No | Sub Sector | Commodity       | District                                      |
|----|------------|-----------------|----------------------------------------------|
| 1  | Food Crops | Rice Plants     | All District                                 |
|    |            | Corn            | Rambatan, Salimpaung, Sungai Tarab, Batipuh, Tanjung Baru |
|    |            | Peanut          | Batipuh, Pariangan, Sungai Tarab, Batipuh Selatan, Salimpaung |
|    |            | Cassava         | Rambatan, Sungai Tarab, Lintau Buo Utara, Tanjung Emas |
|    |            | Sweet Potato    | Pariangan, Batipuh, Sungai Tarab, Sungayang, Lima Kaum |
|    |            | Soya Bean       | Padang Ganting, Tanjung Emas, Batipuh, Salimpaung |
|    |            | Mung Beans      | Padang Ganting, Tanjung Emas                 |
|    |            | Red Onion       | X Koto, Batipuh, Batipuh Selatan, Pariangan, Lima |
|    |            | Banana          | Kaum, Lintau Buo Utara, Sungayang, Salimpaung, Tanjung Baru |
| 2  | Horticultural Crops | Siamese Orange | X Koto, Padang Ganting, Sungai Tarab     |
|    |            | Big Cili        | Semua Kecamatan                              |
|    |            | Cabbage         | X Koto, Batipuh, Sungayang, Salimpaung, Tanjung Baru |
|    |            | Tomatoes        | X Koto, Batipuh, Pariangan, Lintau Buo, Lintau Buo |
|    |            | Carrot          | X Koto, Sungayang                            |

Source: Dinas Pertanian Kabupaten Tanah Datar

Spatial direction or mapping of the leading sub-sectors in Tanah Datar Regency will be able to estimate the magnitude of the development capability of these leading sub-sectors. Kempenaar et al, (2016) stated that for the design of the area mostly prepared with maps and illustrations that became symbols to represent the desired future for an area. The leading sub-sector which is known to be the
main force in improving the economy in Tanah Datar Regency. Mapping/mapping of the leading sub-sector areas in Tanah Datar Regency can be seen in the figure below:

Figure 9. Directions for the spatial development of food crops.

Figure 10. Directions for the spatial development of horticultural plants.
From the results of the spatial/mapping development direction above, it can be used as a guideline for the local government of Tanah Datar Regency, especially related agencies to formulate policy plans in the form of development and development efforts in these sub-sectors so that the policies carried out refer to the productivity capabilities of the sub-sectors in each district.

4. Conclusions and suggestions
The sub-sector based on superior natural resources in Tanah Datar Regency can be obtained by looking at the criteria for the base sector, competitiveness, growth rate and sectoral contribution. Then the results of the analysis are compared between the sub-sectors using the Analytical Hierarchy Process. From the results of the evaluation of the base sector, it was found that the horticultural crop sub-sector had the highest value with an average weight of 2.30. The results of the evaluation of the competitiveness criteria obtained that the agricultural and hunting services sub-sector has the highest weight, which is 4.09. The results of the evaluation of the growth rate criteria obtained that the tourism sub-sector has the highest value, namely 8.33. Furthermore, for the evaluation of sectoral contribution criteria, the food crops sub-sector was obtained with a weight of 38.20%.

Furthermore, from the results of the Analytical Hierarchy Process, after comparing each value between sub-sectors using the same criteria, the superior natural resource-based sub-sector is obtained, namely the food crops sub-sector with a weight of 22.9%.

Analysis of the advantages of the natural resource-based sub-sector is very necessary as a guideline to be used as the basis for formulating the pattern of economic development development policies in Tanah Datar Regency in the future. Policies can be made with the aim of being able to encourage other natural resource-based sub-sectors to move and grow rapidly. The application can be in the form of determining budget allocations and priorities directed to leading sub-sectors that have been directed according to the sub-district area so that economic growth can be realized and encourage the creation of community welfare in Tanah Datar Regency.

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