

***POTENTIAL ANALYSIS OF THE AGRICULTURAL, FORESTRY, AND FISHERIES  
SECTORS IN BANDUNG REGENCY BEFORE AND DURING  
THE COVID-19 PANDEMIC***

**ANALISIS POTENSI SEKTOR PERTANIAN, KEHUTANAN, DAN PERIKANAN  
DI KABUPATEN BANDUNG SEBELUM DAN SELAMA PANDEMI COVID-19**

**Putri Siti Awaliyah\*, Agustono, Mei Tri Sundari**

Sebelas Maret University, Jl. Ir. Sutami No. 36A, Jebres, Surakarta City, Central Java 57126

\*Email: putriawaliyah51@student.uns.ac.id

(Diterima 14-08-2022; Disetujui 26-12-2022)

***ABSTRACT***

Bandung Regency is an agricultural area that supports the business development of various commodities. However, the growth rate and contribution of the agricultural, forestry, and fishery sectors in Bandung Regency is relatively small. The existence of the Covid-19 pandemic has caused a decrease in economic activity which has an impact on the economic structure in GRDP, this causes the need for an analysis to determine the potential of the agricultural, forestry and fisheries sectors in Bandung Regency seen from its growth. This research uses primary data from interviews and secondary data from the GRDP of Bandung Regency and West Java Province in 2016-2019 for the period before the pandemic and 2020-2021 for the period during the Covid-19 pandemic. There are two analytical methods used, namely Shift Share Analysis (SSA) and Growth Ratio Model (GRM). The results of the shift share analysis show that the agricultural, forestry, and fisheries sectors in Bandung Regency have a positive total economic change value, meaning that the sector has the potential to be developed both before the pandemic and during the Covid-19 pandemic, while the results of the growth ratio model analysis show that the agricultural, forestry, and fisheries sectors in Bandung Regency had regional potential before the pandemic, but became not potential during the Covid-19 pandemic.

*Keywords: Agricultural, Covid-19, Shift Share, Growth Ratio Model (GRM)*

**ABSTRAK**

Kabupaten Bandung merupakan wilayah pertanian yang mendukung pengembangan usaha berbagai komoditas. Namun, laju pertumbuhan dan kontribusi sektor pertanian, kehutanan, dan perikanan di Kabupaten Bandung relatif kecil dari tahun ke tahun. Adanya pandemi Covid-19 menyebabkan terjadinya penurunan kegiatan ekonomi yang berdampak pada struktur perekonomian dalam PDRB, hal tersebut menyebabkan perlu dilakukan analisis lebih jauh untuk mengetahui potensi sektor pertanian, kehutanan, dan perikanan di Kabupaten Bandung dilihat dari pertumbuhannya. Penelitian ini menggunakan data primer berupa hasil wawancara dan data sekunder berupa PDRB Kabupaten Bandung dan Provinsi Jawa Barat tahun 2016-2019 untuk periode sebelum pandemi dan 2020-2021 untuk periode selama pandemi Covid-19. Terdapat dua metode analisis yang digunakan yaitu *shift share analysis* (SSA) dan Model Rasio Rertumbuhan (MRP). Hasil analisis *shift share* menunjukkan bahwa sektor pertanian, kehutanan, dan perikanan di Kabupaten Bandung memiliki nilai *total economic change* positif yang berarti sektor tersebut potensial untuk dikembangkan baik sebelum pandemi maupun selama pandemi Covid-19, sedangkan hasil analisis model rasio pertumbuhan menunjukkan bahwa sektor pertanian, kehutanan, dan perikanan di Kabupaten Bandung potensial secara regional pada saat sebelum pandemi, tetapi menjadi tidak potensial saat pandemi Covid-19.

Kata kunci: Pertanian, Covid-19, *Shift Share*, Model Rasio Pertumbuhan (MRP)

## INTRODUCTION

Development is a deliberate transformation of social structures, public attitudes, and national institutions through policies and strategies without compromising the initial goal of economic growth (Tumangkeng, 2018). Development is carried out not only at the central level but can be carried out in a smaller scope such as the regions. Regional development is based on Law No. 23 of 2014 concerning Regional Government. Regional development can run optimally if it is in accordance with the potential possessed by the area (Setyowati, 2012). One of the important indicators to analyze the success of regional development is the level of economic growth (Guo & Liu, 2022).

Economic growth is a development of economic activity as measured by the increase in Gross Regional Domestic Product (GRDP) (Abuiyada, 2018). The purpose of economic growth is to increase the prosperity and welfare of the community (Ghecham, 2022). The economic potential in each region can be used as a great opportunity to encourage regional economic growth. To see economic sectors that have great potential for regional economic growth, it can be

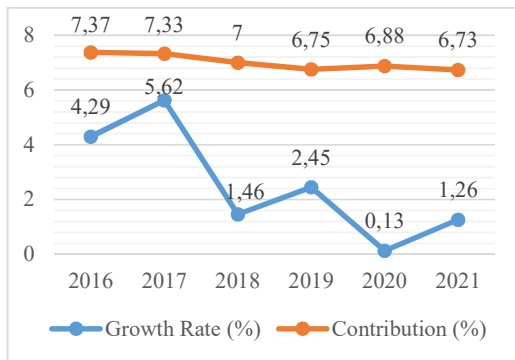
done by conducting various economic analysis models.

The agricultural, forestry and fisheries sectors have great potential in increasing economic growth. The potential of this sector in the economy of a region can be found in five main things, namely providing a food surplus, increasing demand for industrial products so as to encourage the secondary and tertiary sectors, providing additional foreign exchange for the country through exporting agricultural products, increasing village income, and improving the welfare of rural communities (Jhingan, 2007). Indonesia is a country that makes the agricultural sector a potential sector and a support for the national economy (Setyanti, 2021).

Bandung Regency is one of the areas in West Java Province that has great opportunities in the agricultural, forestry and fisheries sectors. This can be seen from the wide area of available agricultural land, which is 71,743.69 ha (BPS Kabupaten Bandung, 2021). Most of the land in Bandung Regency is used for agricultural areas including rice fields and plantations. In addition, there are still many residents of Bandung Regency who are interested and have main jobs in the

agricultural, forestry, and fisheries sectors, making Bandung Regency an opportunity to become an area that has potential for these sectors. According to Pemerintah Kabupaten Bandung (2021), the number of people working in the agricultural, forestry and fisheries sectors is 205,749 people. This number has increased from the previous year.

Even though Bandung Regency has great opportunities in the agricultural, forestry, and fisheries sectors. However, this opportunity is not matched by the large contribution and growth rate of the sector to the economy of Bandung Regency as a whole. Based on Figure 1, it can be seen that the contribution and growth rate of the agricultural, forestry and fisheries sectors from year to year are relatively small and tend to decline both in the period before the pandemic, namely 2016-2019 and during the Covid-19 pandemic in 2020-2021.



**Figure 1. The Rate of Growth and Contribution of The Agricultural, Forestry, and Fisheries Sectors in Bandung Regency Before and During The Covid-19 Pandemic**

The existence of the Covid-19 pandemic at the beginning of 2020 caused changes in the structure of the economy in GRDP according to business fields, including the agricultural, forestry and fisheries sectors. However, Suryana *et al.* (2020), stated that the agricultural, forestry and fisheries sectors are predicted to be sectors that remain potential and have the least impact due to the Covid-19 pandemic. This causes the need for objective identification by comparing the potential of the agricultural, forestry and fisheries sectors in Bandung Regency before and during the Covid-19 pandemic.

Seeing this phenomenon and the condition of the Bandung Regency area which has the opportunity for various business activities in the agricultural, forestry, and fisheries sectors, it is necessary to conduct an analysis to determine the potential of these sectors to the development of the Bandung Regency so as to encourage the creation of sustainable economic development. This research is important to do as a basis for planning and formulating policies and strategies related to economic development, especially in the agricultural sector in Bandung Regency. Development planning in accordance

with regional potential will create competitive economic development and optimize agricultural potential. This is in accordance with the first mission of Bandung Regency, which is to generate competitiveness by optimizing potential and mastering agricultural technology. This study was conducted to analyze the potential of the agricultural, forestry and fisheries sectors in Bandung Regency before and during the Covid-19 pandemic when viewed from its growth.

## RESEARCH METHODS

This study uses a descriptive method with a mixed methods approach that combines qualitative and quantitative methods in order to obtain more valid, comprehensive, and objective data (Sugiyono, 2016). The research was conducted in May-July 2022 in Bandung Regency. The types of data used are primary data and secondary data in the form of GRDP of Bandung Regency and West Java Province in 2016-2019 for the period before the pandemic and 2020-2021 for the period during the Covid-19 pandemic. Primary data was obtained from interviews with related parties, while secondary data was obtained from the Central Bureau of Statistics of

Bandung Regency and West Java Province.

Data collection was carried out by interview and documentation methods to find out and obtain data related to in-depth research (Sugiyono, 2016). There are two analytical methods used, namely Shift Share Analysis (SSA) and Growth Ratio Model (GRM). The calculation method is assisted by Microsoft Excel 2016 software.

### 1. Shift Share Analysis

The components of growth in the agricultural, forestry, and fisheries sectors in Bandung Regency were analyzed using the shift share analysis method. The analysis is able to draw conclusions about the potential and competitiveness of the economic sector (Maspaitella & Parinussa, 2021). The three main components in the shift share analysis are National Growth (NG), Industrial Mix (IM), and Competitive Share (CS) (Sambidi, 2008). If  $IM \geq 0$  then the agricultural, forestry and fishery sectors in Bandung Regency have fast growth, if  $CS \geq 0$  then the sector has good competitiveness, and vice versa. The three main components of growth can be stated as follows:

$$TEC = NG + IM + CS$$

Where:

$$NG = E_i^t \left( \frac{N^{t+1}}{N^t} - 1 \right)$$

$$IM = E_i^t \left( \frac{N_i^{t+1}}{N_i^t} - \frac{N^{t+1}}{N^t} \right)$$

$$CS = E_i^t \left( \frac{E_i^{t+1}}{E_i^t} - \frac{N_i^{t+1}}{N_i^t} \right)$$

Description:

TEC = Total Economic Changes

$E_i^t$  = GRDP sector i in Bandung Regency in the base year of analysis

$E_i^{t+1}$  = GRDP sector i in Bandung Regency in the final year of analysis

$N^t$  = GRDP of West Java Province in the base year of analysis

$N^{t+1}$  = GDRP of West Java Province in the final year of analysis

$N_i^t$  = GDRP sector i in West Java Province in the base year of analysis

$N_i^{t+1}$  = GDRP sector i in West Java Province in the final year of analysis

## 2. Growth Ratio Model (GRM)

In addition to shift share analysis, the potential of the agricultural, forestry, and fisheries sectors in Bandung Regency can also be identified using the Growth Ratio Model (GRM). This model is an advanced analysis of shift share (Muta'ali, 2015). The calculation of the

GRM analysis uses two ratios, namely the study area growth ratio (RPs) and the reference area growth ratio (RPr). The two ratios can be expressed by the following formula:

$$RPs = \frac{\Delta E_{ij}/E_{ij(t)}}{\Delta E_{ir}/E_{ir(t)}}$$

$$RPr = \frac{\Delta E_{ir}/E_{ir(t)}}{\Delta E_r/E_r(t)}$$

Keterangan:

RPs = Bandung Regency Growth Ratio

RPr = West Java Province Growth Ratio

$\Delta E_{ij}$  = Changes in GRDP sector i in Bandung Regency in the year of analysis

$E_{ij(t)}$  = GRDP sector i in Bandung Regency in the initial year of analysis

$\Delta E_{ir}$  = Changes in GRDP sector i in West Java Province in the year of analysis

$E_{ir(t)}$  = GRDP sector i in West Java Province in the initial year of analysis

$\Delta E_r$  = Changes in GRDP of West Java Province in the year of analysis

$E_{r(t)}$  = GRDP of West Java Province in the initial year of analysis

The results of the GRM analysis are real and nominal values. The two values will be combined to obtain a description of potential economic activities. Based on

this formula, there is a combination of RPs and RPr values which are grouped into four categories, namely dominant sectors, regional potential sectors, global potential sectors, and non-potential sectors.

## RESULTS AND DISCUSSION

### Shift Share Analysis

Processing industry sector; wholesale and retail trade, repair of cars and motorcycles; and the agricultural, forestry, and fisheries sectors are the sectors that provide the largest contribution to the economy of Bandung Regency. According to (Sinurat, 2016), the potential economic sector is a sector that has a large comparative and competitive advantage. To see the magnitude of these advantages, it is necessary to conduct an assessment using shift share analysis (Syafrizal, 2017).

#### 1. National Growth

The national growth component measures the economic changes that occur in Bandung Regency if the area grows at the same rate as West Java Province. Lv *et al.* (2021) states that this component analyzes changes in regional production caused by changes in national production, changes in national policies, or other changes that affect the economic sector. The positive result of national growth indicates that the economic

growth of Bandung Regency is positively influenced by the economic growth of West Java Province.

**Table 1. The Value of National Growth in The Agricultural, Forestry and Fisheries sectors in Bandung Regency Before and During the Covid-19 Pandemic (Billion Rupiah)**

| Year                           | National Growth | Score    |
|--------------------------------|-----------------|----------|
| 2016-2019<br>(Before Covid-19) | 856.19          | Positive |
| 2020-2021<br>(During Covid-19) | 208.57          | Positive |

Source: Secondary Data Analysis (2022)

The value of the national growth component of the agricultural, forestry and fishery sectors in Bandung Regency in 2016-2019 grew by 856.19 billion rupiah, while during the Covid-19 pandemic in 2020-2021, it grew by 208.57 billion rupiah. The two values of the national growth component are positive, so they can illustrate that the growth of the agricultural, forestry, and fisheries sectors in Bandung Regency is influenced by one of the economic policies at the West Java Province level such as subsidy policies, inflation policies, and other policies.

In the period before the Covid-19 pandemic related to inflation policy, the government carried out various strategies to control inflation, one of which was cooperation between producer and consumer areas, for example between Bandung Regency and Bandung City,

Jakarta, Bogor, and Bekasi to fulfill potato commodity needs. Meanwhile, the subsidy policies related to the agricultural, forestry, and fishery sectors are agricultural input subsidies and people's business credit, known in Indonesia as Kredit Usaha Rakyat (KUR). During the Covid-19 pandemic, the implementation of policies related to the agricultural, forestry and fisheries sectors did not experience many changes, only the government was more focused on implementing food security policies and distributing KUR for economic recovery.

## 2. Industrial Mix

The Industrial mix component shows the performance of the economic sector in Bandung Regency nationally (West Java Province). This component describes the magnitude of economic changes due to the industrial mix in Bandung Regency. This component will be positive in fast-growing areas and negative in slow-growing areas (Assidikiyah *et al.*, 2021).

**Table 2. The Value of Industrial Mix in The Agricultural, Forestry and Fisheries sectors in Bandung Regency Before and During the Covid-19 Pandemic (Billion Rupiah)**

| Year                           | Industrial Mix | Score    |
|--------------------------------|----------------|----------|
| 2016-2019<br>(Before Covid-19) | -520.12        | Negative |
| 2020-2021<br>(During Covid-19) | -135.32        | Negative |

Source: Secondary Data Analysis (2022)

The industrial mix growth component in the agricultural, forestry and fisheries sectors showed negative values both before the pandemic and during the Covid-19 pandemic. However, during the Covid-19 pandemic the value has increased. The magnitude of the negative value indicates that the composition of the agricultural, forestry and fisheries sector industries in Bandung Regency has slower growth than West Java Province, causing Bandung Regency to lose income of 520.12 billion rupiah before the pandemic and 135.32 billion rupiah during the period of the Covid-19 pandemic.

One of the reasons for the slower growth of the agricultural, forestry and fishery sectors in Bandung Regency is the level of application of agricultural technology that is still limited and uneven so that the productivity of these sectors grows slowly. For example, rice productivity in Bandung Regency in 2020 is 55.27 ku/ha, while rice productivity in West Java reaches 56.58 ku/ha (BPS Provinsi Jawa Barat, 2022). In addition, there are still industrial policies that have not been unified and in favor of the sector. Some of the policies are the application of an agricultural commodity export tax which aims to encourage the

domestic agricultural product processing industry and the policy of limiting imports of agricultural products (beef cattle) which causes price movements and product fulfillment to become unstable.

### 3. Competitive Share

The competitive share component shows the competitiveness of the economic sector in Bandung Regency with the same sector in West Java Province. The value of competitive share can be influenced by several things, namely the comparative advantage of a sector, access to input and output markets, and infrastructure conditions (Khusaini, 2015). The agricultural, forestry, and fishery sectors in Bandung Regency have high competitiveness or comparative advantage if these components are positive.

**Table 3. The Value of Competitive Share in The Agricultural, Forestry and Fisheries sectors in Bandung Regency Before and During the Covid-19 Pandemic (Billion Rupiah)**

| Year                           | Competitive Share | Score    |
|--------------------------------|-------------------|----------|
| 2016-2019<br>(Before Covid-19) | 160.54            | Positive |
| 2020-2021<br>(During Covid-19) | -2.95             | Negative |

Source: Secondary Data Analysis (2022)

The agricultural, forestry and fisheries sectors in Bandung Regency before the Covid-19 pandemic had high competitiveness. The comparative

advantage that Bandung Regency has in this sector is the extent of available agricultural land resources and the diversity of its biological resources. These advantages can be used as the basic capital for the development of the agricultural sector in Bandung Regency. In addition, Bandung Regency also has two areas that are used for the development of superior agricultural products, namely the Ciwidey agropolitan area with its superior commodity, namely dairy cattle and the Pangalengan agropolitan area which has coffee as the main commodity.

During the Covid-19 pandemic, the agricultural, forestry and fisheries sectors had lower competitiveness than similar sectors in West Java Province. This condition occurred due to the Covid-19 pandemic and the implementation of social distancing policies in various regions which had affected the distribution of agricultural products from Bandung Regency to the main markets which were generally located in the Jakarta area. In addition, during the Covid-19 pandemic, the export activities of agricultural products in Bandung Regency, especially the export of coffee commodities, experienced, regulatory



constraints because several destination countries imposed a lockdown.

**Table 4. The Value of TEC in The Agricultural, Forestry and Fisheries sectors in Bandung Regency Before and During the Covid-19 Pandemic (Billion Rupiah)**

| Year                           | TEC    | Score    |
|--------------------------------|--------|----------|
| 2016-2019<br>(Before Covid-19) | 496.62 | Positive |
| 2020-2021<br>(During Covid-19) | 70.31  | Positive |

Source: Secondary Data Analysis (2022)

The results of the three components of regional growth can be used to determine the value of the Total Economic Change (TEC) in the agricultural, forestry, and fisheries sectors in Bandung Regency. Total economic change can be determined by adding up the results of the three components of regional growth (Supriyadi *et al.*, 2015). The value of TEC in the agricultural, forestry and fishery sectors in Bandung Regency before the pandemic and during the Covid-19 pandemic was positive, which means that the sector is classified as a potential sector so that it is feasible to be developed.

#### Growth Ratio Model (GRM)

Growth Ratio Model (GRM) is an analytical method used to see the potential of the agricultural, forestry and fisheries sectors in Bandung Regency. The GRM method emphasizes the growth

criteria of the sector. If the results of the GRM calculation show a value of more than one (real > 1) then the nominal is positive, if the value is less than one (real < 1) then the nominal is negative (Kharisma & Hadiyanto, 2018).

**Table 5. The Value of GRM in The Agricultural, Forestry and Fisheries sectors in Bandung Regency Before and During the Covid-19 Pandemic**

| Year                           | RPs  |   | RPr  |   |
|--------------------------------|------|---|------|---|
|                                | R    | N | R    | N |
| 2016-2019<br>(Before Covid-19) | 1.48 | + | 0.39 | - |
| 2020-2021<br>(During Covid-19) | 0.96 | - | 0.35 | - |

Source: Secondary Data Analysis (2022)

There are differences in the potential of the agricultural, forestry, and fisheries sectors in Bandung Regency before the pandemic and during the Covid-19 pandemic. The sector shows the value of RPs > 1 (+) and RPr < 1 (-) before the pandemic, which means that the agricultural, forestry and fisheries sectors in Bandung Regency have regional potential. During the Covid-19 pandemic, the value of RPs < 1 (-) and RPr < 1 (-), means that the sector has no potential, both regionally and globally.

The agricultural, forestry and fisheries sectors have a major contribution to the economy of Bandung Regency. Before the pandemic, the sector was in the third position as the largest contributor, while during the Covid-19

pandemic it decreased to fourth position (BPS Kabupaten Bandung, 2022). Muta'ali (2015) stated that in addition to the value of the contribution, differences in the potential of the agricultural, forestry, and fishery sectors could be caused by problems in production and productivity of agricultural products that affect the growth rate of these sectors.

Climate and weather constraints are the main factors that are difficult to predict so that agricultural activities in Bandung Regency are highly dependent on climatic conditions. This affects the production value of agricultural commodities (Skrypnyk *et al.*, 2021). The Covid-19 pandemic has exacerbated problems in the agricultural, forestry and fisheries sectors in Bandung Regency, which had previously occurred. The Covid-19 pandemic has caused Bandung Regency farmers to experience difficulties in procuring inputs due to social distancing policies and rising prices for agricultural production inputs. This condition causes farmers to make savings in the use of agricultural production facilities in order to reduce farming costs. This method has an impact on the decline in the value of production and productivity of agricultural commodities in Bandung Regency, so

that the contribution value and growth of the agricultural, forestry and fishery sectors are also affected.

## CONCLUSION AND SUGGESTIONS

### Conclusions

The potential of the agricultural, forestry and fisheries sectors in Bandung Regency can be seen from the results of shift share analysis and growth ratio models. The results of the sector shift share analysis show that the national growth component before the pandemic period grew by 856.19 billion rupiah, while during the Covid-19 pandemic it was 208.57 billion rupiah. The industrial mix component shows a negative value which causes Bandung Regency to lose revenue of 520.12 billion rupiah before the Covid-19 pandemic and 135.32 billion rupiah during the Covid-19 pandemic. The competitive share value shows that the agricultural, forestry and fisheries sectors in Bandung Regency had high competitiveness before the pandemic, but during the Covid-19 pandemic they had lower competitiveness than similar sectors in West Java Province. Total Economic Change shows positive results which means that the agricultural, forestry, and fisheries sectors in Bandung Regency are potential

and feasible sectors to be developed both before the pandemic and during the Covid-19 pandemic. The results of the analysis of the growth ratio model show that the agricultural, forestry, and fisheries sectors in Bandung Regency were potential sectors regionally before the pandemic, but become not potential during the Covid-19 pandemic.

### **Suggestions**

The development of the agricultural, forestry, and fishery sectors needs to be done by expanding the socialization of the application of technology so that the realization of digital-based corporate agricultural, it can improve the quality, quantity, and profit of production results. Changes in behavior due to the Covid-19 pandemic that show a positive impact need to be maintained and developed. Meanwhile, changes that have a negative impact such as savings in the use of agricultural production facilities need attention from the government so that farmers can continue to run their business properly and safely.

### **BIBLIOGRAPHY**

Abuiyada, D. R. (2018). Traditional Development Theories Have Failed to Address The Needs of The Majority of People at Grassroots Levels with Reference to GAD.

*International Journal of Business and Social Science*, 9(9): 115–119.

Assidikiyah, N., Marseto, M., & Sishadiyati, S. (2021). Analisis Potensi Pertumbuhan Ekonomi Provinsi Jawa Timur (Sebelum dan Saat Terjadi Pandemi Covid-19). *Jambura Economic Education Journal*, 3(2): 102–115.

BPS. (2021). *Statistik Daerah Kabupaten Bandung Tahun 2021*. Badan Pusat Statistik Kabupaten Bandung, Bandung.

\_\_\_\_\_. (2022). *Kabupaten Bandung dalam Angka 2022*. Badan Pusat Statistik Kabupaten Bandung, Bandung.

\_\_\_\_\_. (2022). *Provinsi Jawa Barat dalam Angka 2022*. Badan Pusat Statistik Provinsi Jawa Barat, Bandung.

Ghecham, M. A. (2022). The Impact of COVID-19 on Economic Growth of Countries : What Role Has Income Inequality in It ?. *Economies*, 10(7): 158.

Guo, L., & Liu, Y. (2022). Urban-Industrial Development and Regional Economic Growth in a Developing Country: A Spatial Econometric Approach. *SAGE Open*, 12(2): 1–12.

Jhingan, M. L. (2007). *Ekonomi Pembangunan dan Perencanaan (Edisi 1)*. CV. Rajawali Press, Jakarta.

Kharisma, B., & Hadiyanto, F. (2018). Penentuan Potensi Sektor Unggulan Dan Potensial Di Provinsi Maluku. *Jurnal Ekonomi & Studi Pembangunan*, 19(1): 23-34.

Khusaini, M. (2015). A Shift-share Analysis on Regional Competitiveness - A Case of Banyuwangi District, East Java, Indonesia. *Procedia - Social and Behavioral Sciences*, 211: 738–744.

Lv, D., Gao, H., & Zhang, Y. (2021). Rural economic development based on shift-share analysis in a

- developing country: A case study in heilongjiang province, china. *Sustainability (Switzerland)*, 13(4): 1–19.
- Maspaitella, M., & Parinussa, S. M. (2021). Applying Location Quotient and Shift-Share Analysis in Determining Leading Sectors in Teluk Bintuni Regency. *Journal of Developing Economies*, 6(1): 55–65.
- Muta'ali, L. (2015). *Teknik Analisis untuk Perencanaan Wilayah Tata Ruang dan Lingkungan*. BPFUGM, Yogyakarta.
- Pemerintah Kabupaten Bandung. (2021). *RKPD Tahun 2022 Kabupaten Bandung*. Pemerintah Kabupaten Bandung, Bandung.
- Sambidi, P. (2008). *Regional Industry Cluster Analysis for the Gulf Coast Economy Development District*. Department of Community and Environmental Planning Huston-Galveston Area Council, Texas.
- Setyanti, A. M. (2021). Sektor Pertanian dalam Dinamika Transformasi Struktural di Indonesia. *Jurnal Sosial Ekonomi Pertanian Dan Agribisnis*, 18(1), 48-57.
- Setyowati, N. (2012). Analisis Peran Sektor Pertanian di Kabupaten Sukoharjo. *Jurnal Sosial Ekonomi Pertanian Dan Agribisnis*, 8(2): 174–179.
- Sinurat, M. (2016). Cianjur Regency Regional Economy Potential Analysis. *International Journal of Social Sciences*, 45(1): 1–13.
- Skrypnyk, A., Zhemoyda, O., Klymenko, N., Galaieva, L., & Koval, T. (2021). Econometric Analysis of the Impact of Climate Change on the Sustainability of Agricultural Production in Ukraine. *Journal of Ecological Engineering*, 22(3): 275–288.
- Sugiyono. (2016). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Alfabeta, Bandung.
- Supriyadi, D., Agustono, & Rahayu, W. (2015). Identifikasi Posisi dan Komponen-Komponen yang Mempengaruhi Pertumbuhan Sub Sektor Agribisnis di Kabupaten Boyolali. *Agrista*, 3(2): 71–83.
- Suryana, A., Rusastra, I. W., Sudaryanto, T., & Pasaribu, S. M. (2020). *Dampak Pandemi Covid-19: Perspektif Adaptasi dan Resiliensi Sosial Ekonomi Pertanian*. IAARD Press, Bogor.
- Syafrizal. (2017). *Perencanaan Pembangunan Daerah dalam Era Otonomi*. PT RajaGrafindo Persada, Depok.
- Tumangkeng, S. (2018). Analisis Potensi Ekonomi di Sektor dan Sub Sektor Pertanian, Kehutanan Dan Perikanan Kota Tomohon. *Jurnal Berkala Ilmiah Efisiensi*, 18(01): 127–138.