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Mapping Potential Agriculture Sectors in SULAMPUA Region as an Impact of Capital City of Nusantara Development

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Abstract

The development of Capital City of Nusantara (IKN), which is geographically closer to the SULAMPUA region, expected trigger the SULAMPUA economy, especially the agricultural sector. This study aims to determine the potential agricultural sector in the SULAMPUA region due to IKN development. The study uses IRIO (Inter-Regional Input-Output) from Statistics Indonesia in 2021, specifically for seven agricultural sub-sectors. The SULAMPUA region comprises ten provinces, with the Golden Triangle region comprising South Sulawesi, Central Sulawesi, and West Sulawesi. The results of the study show that no agricultural industry is a strategic sector in the SULAMPUA. Based on the criteria set out in the research, no sector falls into the category of very potential to be developed. The potential sectors to be developed in the SULAMPUA Region are (1) food crops; (2) seasonal and annual plantation crops; (3) livestock; (4) forestry and logging; and (5) fishery. Local governments need to consider policies related to potential agricultural sectors. Because the agricultural sector is a labor-intensive and the availability of resources.

Keywords: input-output, multiplier, demand, linkages, IRIO, economic development

Introduction

SULAMPUA, or Sulawesi, Maluku, and Papua, are provinces located in the eastern region of Indonesia with agricultural, fishing, and mining potential. These provinces generally have the largest share in the agricultural sector. This sector needs to develop as a sector with an abundance of resources that is labor-intensive. The opportunity for economic development in SULAMPUA is the Capital City of Nusantara (IKN) plan in East Kalimantan Province. Geographically, East Kalimantan Province faces the Golden Triangle region, namely South Sulawesi, West Sulawesi, and Central Sulawesi, with South Sulawesi Province as the main

economic hub in the SULAMPUA region. Thus, it is hoped that IKN development can encourage economic growth in the surrounding area.

A growth pole encourages development in the entire region, where the growth pole is an area that has strong socio-economic relations with other areas around it. Areas with growth caps require support from the surrounding areas, such as through investment, to stimulate the local economy. Hirschman (1959) emphasized the role of backward and forward linkages in an industry to encourage growth. The analysis of forward linkages and backward linkages between these industries is shown in the input-output table. Using the inter-regional input-output approach will produce key sectors that need to be developed in inter-regional economic relations. Several previous researchers have identified key sectors, including Ojaleye & Narayanan (2022) in the case of low-income nations, Brika, Adli, & Chergui (2021) in the case of Saudi Arabia, and Gok & Akseki (2022) in the case of Turkey. Key sector studies that have been researched for the Indonesian case include Prihawantoro et al. (2019), Yusa (2020), and Desiyanti (2020). There is a study examining the interconnectedness of the agricultural sector, especially the fisheries sector, in Indonesia, conducted by Tajerin et al. (2017), which shows that during the 1990–2000 period, on average, the interconnectedness of the fisheries sector was still relatively low.

Several researchers have also used the IRIO table in their studies. The research that uses IRIO in the Indonesian case is Allo et al., (2022) for the electricity sector; Ronalia (2021)for the case of Riau Province; and Rahmawan & Angraini (2021) for the case of Lampung Province. Previous studies have not examined key agricultural sectors as having an impact on regional development. Previous studies have also minimally examined the impact of IKN development on the SULAMPUA region. This research examines the potential agricultural sector that needs to be developed concerning IKN. It is expected that this research will provide input for local governments planning to take advantage of labor-intensive industrial opportunities as well as local potential in IKN development.

Literature Review

Hirschman (1959) introduced linkages between industries and emphasized the role of backward linkages. for growth stimulation, and argued that forward linkages cannot exist in pure form because they are the result of demand originating from existing backward linkages. Thus, forward linkages can be considered strong support for backward linkages. These considerations lead to a distinction between industries that promote economic development through backward linkages and industries that enable economic development through forward linkages. A growth pole is a region that has strong socio-economic relations with other surrounding regions as a center of growth that can encourage development throughout the region. Areas with growth caps require support from the surrounding areas, such as through investment, to stimulate the local economy. Pasaribu dkk. (2014) studied the mechanism of Perroux's theory in the Kalimantan region. The results of their research show that growth in output, employment, and investment in growth centers in Kalimantan has a negative spillover impact on the surrounding area. If economic flows to the surrounding area are present along

with growth in output, employment, and investment at the growth center, the surrounding area will benefit from the growth center's spillover effect.

Several previous researchers have conducted studies of inter-regional linkages. In their 2021 study, Liu et al. (2021) used I-O analysis to look at how different ways of consuming energy affect energy use in the industrial sector, how changes in consumer lifestyles affect energy savings, and how much energy Chinese households will use in the future in a number of different scenarios. According to the research's findings, household consumption methods in China accounted for 26.9% and 34.1% of total energy consumption in 2012 and 2017, respectively, with total energy consumption being 28461.82 PJ and 44759.96 PJ. Tajerin et al.,(2015) also examined the development of the Indonesian fishery product processing industry using the I-O model. The results show that an increase in investment of 100% has an impact on the national economy in the form of increasing economic output by 0.83% (IDR. 107.97 trillion); gross value added was 0.48% (IDR 61.64 trillion); community income was 0.09% (IDR 11.33 trillion); and labor absorption was 0.004% (503 thousand people).

Tajerin et al., (2017) found that the fisheries sector was still not very connected to the national economy between 1990 and 2000, with a linkage index ranging from 0.46 to 1.10. Atthahara & Rizki (2019) examined the impact of industrial development policies in Karawang and showed that industrial development had a positive impact on economic aspects such as regional growth, the transition of society towards an industrialized society, and increasing living standards, but the development of industrial areas also harmed socio-cultural and environmental aspects. Following the input-output model approach, Lee & Hlee (2021) also tested the intra- and inter-regional economic effects of smart tourism cities, which have a high level of competitiveness as smart tourism cities, using IRIO analysis. The research results show that Seoul's smart tourism city is expected to create high income, high added value, and job creation effects within the city and will greatly contribute to securing tax revenues. Outside the city, the smart tourism city of Seoul is expected to have a high production effect. This research highlights the economic effects of smart tourism cities, illustrating the convergence of technology and tourism.

Allo et al., (2022) research uses interregional input-output (IRIO) data in Indonesia. Analysis shows that the impact of electricity is not only in areas under construction but also in other areas in Indonesia. Investment in the electricity industry in Indonesia provides a multiplier effect on the economy of 3.11. The Java region has received the greatest benefits from electricity development in Indonesia. This is rationally acceptable, as most of the industry is located in this region. This causes a development gap between Java and outside Java. (Rahmawan & Angraini, 2021) have used IRIO to conduct research on important sectors. for the case of Lampung Province and finds that the key sectors of Lampung Province are the processing industry as well as electricity and gas procurement. The electricity and gas procurement sector has the largest output multiplier value for both the Lampung Province and the national economy. On the other hand, input trade in Lampung Province is generally more dominated by trade with Java Island compared to Sumatra Island. Furthermore, Ronalia (2021) for the case of Riau found that the leading industry in Riau Province was the electricity and gas processing and procurement industry. The final demand shock in Aceh Province had a

significant impact on the economy in DKI Jakarta Province, according to an analysis of inter-regional linkages in Riau Province.

Li et al,, (2021) used a multi-regional input-output (MRIO) model to figure out how energy demand affects China's transportation sector. They found that supply from sectors like coking and petroleum refining and demand from the services sector are the main reasons the transportation sector uses energy. From a provincial standpoint, the transportation industry is aware that the majority of provinces in central and western China have low levels of transportation technology. In contrast, the main reason the transportation sector achieves energy use in most provinces in eastern China is the abundance of economic and social activities. In terms of inter-provincial transfers, the energy contained in the transportation sector flows from resource-dense provinces located in central and western China to resource-deficient provincial areas in eastern China. In addition, there is the influence of close geographic proximity on energy transfer.

Research Method

The research uses 2016 IRIO (Inter-Regional Input-Output) data for 52 industries from Statistics Indonesia in 2021. The type of industry studied is the agricultural sub-sector in general, or 7 industries, as presented in Table 1. The SULAMPUA region consists of 10 provinces, namely: South Sulawesi, Southeast Sulawesi, North Sulawesi, Central Sulawesi, West Sulawesi, Gorontalo, Maluku, North Maluku, West Papua, and Papua, while the province is analyzed to represent IKN in East Kalimantan.

Table 1: Grouping of Agricultural Sectors Based on IRIO Table 52 Industry

Industry Name	Code
Food Crops	I-01
Annual and Seasonal Horticultural Crops etc.	I-02
Annual and Seasonal Plantation Crops	I-03
Livestock	I-04
Agriculture Services and Hunting	I-05
Forestry and Logging	I-06
Fishery	I-07

The structure of the IRIO table shows that X_{ij}^{rs} is the intermediate input from sector *i* in province *r* to sector *j* in province *s*. Furthermore, F_{iz}^{rs} is the final demand of province *s* from sector *i* in province *r*, while e_i^r is the export of sector *i* in province *r*. F_i^r is the total output of sector *i* in province *r*. Calculation of the input coefficient from province *r* to sector *j* in province *s*, **(**a_{ij}^{rs}**)** formulated using equation 1.

$$a_{ij}^{rs} = \frac{x_{ij}^{rs}}{x_{ij}^{rs}} \quad \text{.....(1)}$$

The calculation of the multiplier matrix (B) is carried out by inversing the matrix resulting from the subtraction of the identity matrix (I) and the input coefficient matrix (A), or $A = (I-A)^{-1}$. The backward linkage (BL) and forward linkage (FL) values are calculated by:

$$BL(i)_j = \sum_{i=1} I_{ij} \dots\dots\dots\dots\dots\dots\dots\dots (2)$$

$$FL(i)_j = \sum_{j=1} I_{ij} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3)$$

The backward linkage index (dispersion power index, IBL) and forward linkage index (sensitivity degree index, IFL) are calculated by dividing the average impact of all production activities. If a sector has an IBL > 1 and an IFL > 1, this sector is a strategic sector, where an increase in final demand for this sector triggers growth in other sectors that are the input, and this sector has quite a high influence on other sectors that use the raw materials. If a sector has IBL > 1 and IFL < 1, then if there is an increase in final demand in this sector, it will affect growth in other sectors that use the input but will not have a high enough influence on other sectors that use the raw materials. As for sectors with IBL < 1, IFL > 1 means that if the sector is developed, it can become a **lever** for the growth of other related sectors. However, this sector does not have enough influence on other sectors used as input. The sectors that have IBL < 1 and IFL < 1 indicate the sector has no potential. The calculation of the impact of final demand between regions in Indonesia using equation (4).

$$X_F = (I - \mathrm{A})^{-1} F \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (4)$$

This research divides two regional groups in the SULAMPUA area, namely the Golden Triangle area and the Non-Golden Triangle area. This grouping was carried out because the Golden Triangle area is the main entrance directly facing IKN. The analysis stages are carried out as follows:

1. The first flow calculates the impact of East Kalimantan's final demand on the province of the SULAMPUA region. In this flow, the agricultural industry will have an impact on the SULAMPUA area.
2. The second calculation flow is carried out in the same way as first flow and produces an agricultural industry that needs to be developed as a link between provinces in the SULAMPUA area. This impact is an indirect impact from the SULAMPUA region to IKN through the interconnectedness of the sectors of each province.
3. To determine potential key sectors that need to be developed in the SULAMPUA region, several criteria are used:
    a. East Kalimantan's final demand impact share is, on average, greater than that of other industries in a province.
    b. The share of impact on final demand through the provinces of the Golden Triangle region is, on average, greater than that of other industries in a province.
    c. The average backward linkage of an industry is greater than that of other industries in a province.

d. The average forward linkage of an industry is greater than that of other industries in a province.

e. Backward linkage (IBL) and forward linkage (IFL) index >1; or IBL > 1 and IFL < 1; or IBL < 1 and IFL > 1.

f. The average output multiplier effect is greater than that of other industries in a province.

g. The multiplier effect on average gross value added is greater than that of other industries in a province.

h. The multiplier effect on the average household income of an industry is greater than that of other industries in a province.

To find the criteria for a potential agricultural sector in the SULAMPUA province, it's not enough based on the backward and forward linkage index indicators since agriculture isn't a strategic sector in the SULAMPUA region. To encourage agricultural sector policy, the determination of potential sectors uses several other criteria. The grouping of potential sectors is divided into four classes, namely: very potential, potential, less potential, and not potential. The class division uses the limit: (maximum value minus minimum value)/4. Each criteria score is worth 1. For provinces in the Golden Triangle area, the highest score is 7 (because of the 8 criteria, criterion b is not included). Meanwhile, the highest score for non-Golden Triangle provinces is 8. The lowest score is zero. Thus, in the provinces of the Golden Triangle area, a sector is said to be very potential with a score ≥ 5.25; potential with a score of 3.5 ≤ value < 5.25; less potential with a score of 1.75 ≤ score < 3.5; and not potential with a score < 1.75. As for non-Golden Triangle provinces, this sector is said to have very potential with a score ≥ 7; potential with a score of 5 ≤ score < 7; less potential with a score of 3 ≤ score < 5; and no potential with a score of < 3.

Result/Findings

1. Impact of Direct Demand from East Kalimantan on SULAMPUA

   Table 2 presents the impact of final demand for South Kalimantan Province on the SULAMPUA region, which has a higher average share than other agricultural industries in the same province. In general, the demand for East Kalimantan Province can encourage the primary sector from other provinces. South Sulawesi is a province that has great potential for developing the agricultural sector, except for the agriculture services and hunting (I-05) and forestry and logging (I-06). Other provinces have the potential for industrial development in the food crops (I-01), namely Central Sulawesi, West Sulawesi, Southeast Sulawesi, Gorontalo, and North Maluku. Meanwhile, the development of annual and seasonal plantation crops (I-03) to meet the demands of East Kalimantan needs to be encouraged for the provinces of Central Sulawesi, West Sulawesi, Southeast Sulawesi, and North Maluku, while the livestock (I-04) is for Central Sulawesi, West Sulawesi, Gorontalo, and North Maluku; the forestry and logging (I-06) for Maluku and North Maluku; and fishery (I-07) for West Sulawesi, Southeast Sulawesi, and West Papua.

Table 2: Potential Industries for SULAMPUA as Impact of Final Demand in East Kalimantan

No	Province	Potential Industry
1	South Sulawesi	I-01; I-02; I-03; I-04; I-07
2	Central Sulawesi	I-01; I-03; I-04
3	West Sulawesi	I-01; I-03; I-04; I-07
4	North Sulawesi	-
5	Southeast Sulawesi	I-01; I-02; I-03; I-07
6	Gorontalo	I-01; I-04
7	Maluku	I-03; I-06
8	North Maluku	I-01; I-03; I-04; I-06
9	West Papua	I-07
10	Papua	-

Source: BPS (2021), processed

2. Impact of Demand in the Golden Triangle Region

Table 3 presents the connecting agricultural sectors between the non-golden triangle area and East Kalimantan through 3 provinces, namely Central Sulawesi, South Sulawesi, and West Sulawesi. Although North Sulawesi Province does not have a direct potential agricultural sector, it can utilize the Golden Triangle area market for the annual and seasonal plantation crops (I-03); livestock (I-04); and fishery (I-07). Meanwhile, Southeast Sulawesi Province can further strengthen the livestock (I-04). Gorontalo Province has opportunities in agriculture services and hunting (I-05); Maluku and North Maluku have opportunities in fishery (I-07). Even though West Papua has fisheries sector potential for South Sulawesi Province, it is still relatively low compared to mining potential. Therefore, to further examine the development potential, the agricultural sector input multiplier share criteria for industry in East Kalimantan and the Golden Triangle Region are used.

Table 3: Agricultural Industries Connecting Several Provinces to East Kalimantan Province Through the Golden Triangle Area

No	Province	Connecting Industry		
		Central Sulawesi	South Sulawesi	West Sulawesi
1	North Sulawesi	I-03; I-04; I-07	I-04; I-06	I-04; I-06; I-07
2	Southeast Sulawesi	I-01; I-03; I-04	I-01; I-04	I-01
3	Gorontalo	I-05	I-01	I-07
4	Maluku	I-03; I-07	I-03; I-04; I-07	I-03; I-07
5	North Maluku	I-03	I-03; I-07	I-03
6	West Papua	I-07	-	I-07
7	Papua	-	-	-

Source: BPS (2021), processed

3. Strategic Agricultural Sector for the SULAMPUA Region Province

The results of backward and forward linkage calculations in the SULAMPUA region are very minimal, with agricultural industry groups having backward linkage, which on average is greater than other industries in one province, except for the livestock (I-04) in North Maluku. The industries that have a greater average forward linkage on a provincial average are presented in Table 4 in dark colors, which indicates that there are no agricultural industries for annual and seasonal horticultural crops etc. (I-02) and agricultural services.

and hunting (I-05) in the SULAMPUA area, which has a greater forward linkage than the average for other industries in the same province.

Table 4: Forward Linkage of the Agricultural Sector in the SULAMPUA

Code	North Sulawesi	Central Sulawesi	South Sulawesi	Southeast Sulawesi	Gorontalo	West Sulawesi	Maluku	North Maluku	West Papua	Papua
I-01	1.4140	1.8786	2.9671	1.5143	1.5518	1.4069	1.5979	1.5213	1.1960	1.3671
I-02	1.2158	1.0744	1.2768	1.1074	1.1431	1.1641	1.1847	1.0382	1.0723	1.0473
I-03	1.4261	2.0946	2.2430	1.1973	1.5878	2.4921	1.4221	1.4441	1.3974	1.3975
I-04	1.7728	1.2766	1.5614	1.0709	1.2499	1.0485	1.0309	1.2628	1.3256	1.0598
I-05	1.1127	1.0737	1.1847	1.0506	1.0929	1.0768	1.0747	1.0386	1.0593	1.0537
I-06	1.3925	2.4489	1.0540	1.0887	1.3286	1.4661	1.1299	1.4190	1.8280	1.9549
I-07	1.4525	1.4525	1.8087	1.5161	1.1833	1.4174	1.7926	1.9561	1.7815	2.0942

Source: BPS (2021), processed

Key sectors in a region can be determined through the forward linkage index (IFL) and backward linkage index (IBL) indicators. Figure 1 shows that not a single province in SULAMPUA has an IBL > 1 and an IFL > 1. This implies that the agricultural sector in general is not a key sector in the SULAMPUA region.

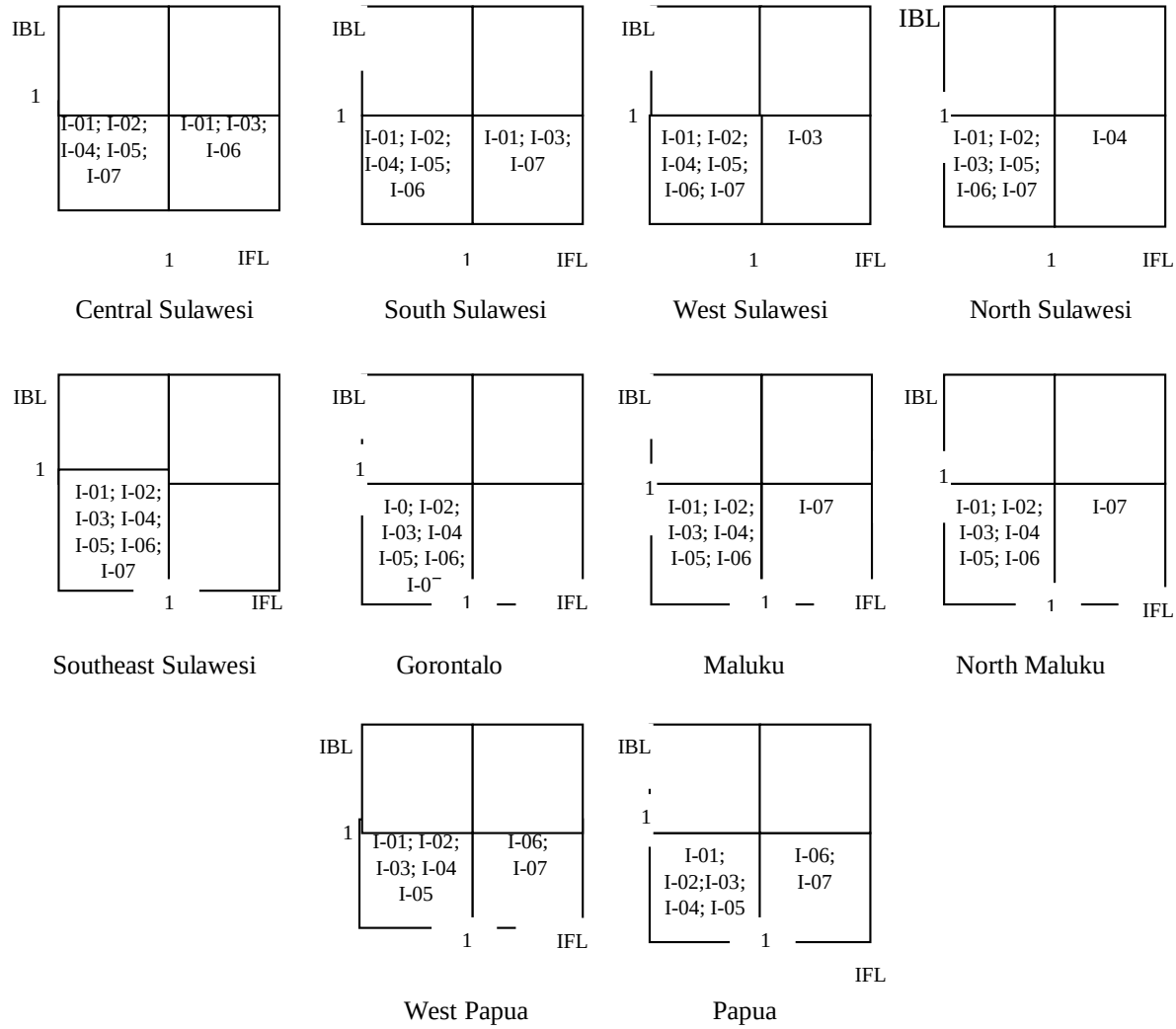

Figure 1: Provincial Backward and Forward Linkage Index in the SULAMPUA Region

Source: BPS (2021), processed

According to IBL1 and IFL1, the agricultural sector in the SULAMPUA region is generally underdeveloped. According to IFL>1, the agricultural sector is strategic in several provinces. If this sector develops, it will stimulate economic growth because it is a lever for the growth of other related sectors, such as food crops (I-01) for the provinces of Central Sulawesi and South Sulawesi, annual and seasonal plantation crops (I-03) for the provinces of Central Sulawesi, South Sulawesi, and West Sulawesi On the other hand, Southeast Sulawesi and Gorontalo do not yet have an agricultural sector as a lever for other related sectors.

4. Multiplier Effect

The output multiplier, gross value added, and household income in the agricultural sector are presented in Table 5. The output multiplier for the agricultural sector in the SULAMPUA region province is generally still below the industry average in the region, except for the annual and seasonal plantation crops (I-03) in North Sulawesi Province and and livestock (I-04) in North Maluku; however, this agricultural sector can provide gross added value above average. On the other hand, for household income multipliers, all agricultural sectors in North Sulawesi and Papua Provinces have household income multipliers above the industry average. In Maluku and Central Sulawesi Provinces, all sectors have higher household income multipliers, except for the forestry and logging (I-06) for Maluku Province, annual and seasonal horticultural crops etc. (I-02), and livestock (I-04) for Central Sulawesi Province. The agricultural sector in Gorontalo Province, which has an output multiplier that is higher than the average, is agriculture services and hunting (I-05) and forestry and logging (I-06).

Table 5: Output Multiplier (I); Gross Value Added (II); and Household Income (III)

Code	Central Sulawesi			South Sulawesi			West Sulawesi			North Sulawesi			Southeast Sulawesi		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
I-01	1.32	0.97	0.40	1.30	0.98	0.38	1.26	0.98	0.30	1.22	0.99	0.56	1.14	1.00	0.42
I-02	1.37	0.96	0.28	1.32	0.98	0.42	1.21	0.98	0.26	1.15	0.99	0.49	1.09	0.99	0.25
I-03	1.33	0.97	0.48	1.15	0.99	0.61	1.18	0.98	0.44	1.19	0.99	0.52	1.25	0.98	0.46
I-04	1.55	0.98	0.13	1.55	0.98	0.33	1.56	0.99	0.52	1.59	0.98	0.54	1.41	0.99	0.13
I-05	1.30	0.96	0.56	1.36	0.98	0.51	1.18	0.99	0.52	1.47	0.97	0.56	1.20	0.99	0.52
I-06	1.28	0.99	0.44	1.27	0.97	0.28	1.05	1.00	0.33	1.16	0.99	0.46	1.18	0.99	0.46
I-07	1.27	0.98	0.30	1.20	0.99	0.28	1.10	1.00	0.29	1.12	1.00	0.58	1.11	0.99	0.29
Code	Gorontalo			Maluku			North Maluku			West Papua			Papua		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
I-01	1.18	0.99	0.36	1.30	0.99	0.35	1.30	0.98	0.35	1.21	0.99	0.40	1.21	1.00	0.33
I-02	1.27	0.98	0.22	1.25	0.99	0.32	1.34	0.96	0.27	1.25	0.98	0.31	1.26	0.99	0.37
I-03	1.17	0.99	0.37	1.24	0.99	0.43	1.24	0.99	0.43	1.18	0.99	0.51	1.24	1.00	0.47
I-04	1.37	0.99	0.33	1.46	0.98	0.54	1.59	0.98	0.16	1.50	0.99	0.64	1.36	0.99	0.51
I-05	1.22	0.99	0.52	1.22	0.99	0.52	1.17	0.98	0.54	1.30	0.99	0.52	1.20	0.99	0.43
I-06	1.17	0.99	0.37	1.20	0.98	0.24	1.15	0.98	0.45	1.16	0.99	0.32	1.19	1.00	0.33
I-07	1.15	0.99	0.32	1.35	0.99	0.30	1.29	0.98	0.33	1.34	0.99	0.30	1.40	0.99	0.45

Source: BPS (2021), processed

South Sulawesi Province, as one of the golden triangle areas for East Kalimantan Province, has an agricultural sector with a household income multiplier above the average for the agricultural industry, except for forestry and logging (I-06) and fishery (I-07). Meanwhile, the agricultural sector in Southeast Sulawesi that leverages household income that is higher than the average is food crop agriculture (I-01); the annual and seasonal plantation crops (I-03); agriculture services and hunting (I-05); and forestry and logging (I-06). In West Sulawesi Province, four agricultural sub-sectors have income multipliers above the industry average, namely the annual and seasonal plantation crops (I-03); livestock sector (I-04); agriculture services and hunting (I-05); and forestry and logging (I-06). Meanwhile, for West Papua, namely food crops (I-01), annual and seasonal plantation crops (I-03), livestock (I-04), and agriculture services and hunting (I-05). The agricultural sub-sectors in North Maluku Province that have household income multipliers that are higher than average are food crops (I-01), the annual and seasonal plantation crops (I-03), agriculture services and hunting (I-05), forestry and logging (I-06) and fishery (I-07).

5. Potential Sectors for Agricultural Sector Development in the SULAMPUA Region

Determining the potential agricultural sector that needs to be developed in the SULAMPUA region based on eight research criteria is presented in Table 6, which shows that no agricultural sector has great potential to be developed. The sectors included in the potential category for development are food crops (I-01) for the provinces of South Sulawesi, Central Sulawesi, and Southeast Sulawesi. The annual and seasonal plantation crops (I-03) has the potential to be developed for the provinces of South Sulawesi, Central Sulawesi, West Sulawesi, Maluku, and North Maluku. Development of the livestock (I-04) to capture potential IKN market opportunities was developed for North Sulawesi Province; the forestry and logging (I-06) for Central Sulawesi Province; and the fishery (I-07) for the provinces of South Sulawesi, Maluku, North Maluku, and Papua.

Table 6: Potential Agricultural Sectors in SULAMPUA

No	Province	Very Potential	Potential	Less Potential	Not Potential
1	South Sulawesi	-	I-01; I-03; I-07	I-02; I-04; I-05	I-06
2	Central Sulawesi	-	I-01; I-03; I-06	I-02	I-04; I-05; I-07
3	West Sulawesi	-	I-03	I-01; I-04; I-05; I-06; I-07	I-02
4	North Sulawesi	-	I-04	I-03; I-06; I-07	I-01; I-02; I-05
5	Southeast Sulawesi	-	I-01	I-03; I-07	I-02; I-04; I-05; I-06
6	Gorontalo	-	-	I-01; I-05	I-02; I-03;I-04; I-06; I-07
7	Maluku	-	I-03; I-07	I-01; I-04	I-02; I-05; I-06
8	North Maluku	-	I-03; I-07	I-01; I-04; I-06	I-02; I-05
9	West Papua	-	-	I-03; I-07	I-01; I-02; I-04; I-05; I-06
10	Papua	-	I-07	I-01; I-03; I-06	I-02; I-04; I-05

Source: BPS (2021), processed

Conclusion

The agricultural sector still has an output multiplier effect that is still below the industry average in SULAMPUA. On the other hand, there is no industry included in the agricultural

group, which is a strategic sector in the SULAMPUA region. However, provinces in the SULAMPUA area can take advantage of the IKN market, either directly or through logistical links with the surrounding areas. For provinces located in non-Golden Triangle areas, they can increase their output to meet demand from the provinces of South Sulawesi, Central Sulawesi, and West Sulawesi. Based on the criteria established in the research, there are no sectors that fall into the category of having very high potential for development. The potential sectors to be developed in the SULAMPUA area are (1) food crops; (2) seasonal and annual plantation crops; (3) livestock; (4) forestry and logging; and (5) fishery. Gorontalo and West Papua provinces do not yet have an agricultural sector that is included in the potential category for development. The findings of this research have policy implications where local governments need to consider policies related to sectors that still lack or even have no potential for development, becoming potential sectors. Because the agricultural sector is a labor-intensive sector, The efforts to increase the potential of the agricultural sector will encourage income distribution, especially through the development of IKN closer to the SULAMPUA area to improve the welfare of SULAMPUA.

Declaration of conflicting interest

The authors declare that there is no conflict of interest in this work.

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