Positive Impacts of Transfer in Agricultural Land Functions to Non-Agriculture for Farmers in Pangkalan Bun Regency

I Gusti Ayu Gangga Santi Dewi[1], Bambang Eko Turisno[2], Made Wiryani[3]
{ganggasanti@gmail.com[1]}

Universitas Diponegoro, Indonesia[1, 2, 3]

Abstract. The massively-growing population causes the transfer of agricultural land functions to non-agricultural sectors in Pangkalan Bun Regency. The growth urges land availability for profitable oil palm plantations and housing. This study discusses 1) the reality of the transfer of agricultural land functions to non-agricultural sectors in Pangkalan Bun Regency, Central Kalimantan, and 2) government policies on land conversion to increase community welfare. The results point out that the land transfer to oil palm plantations has resulted in the absence of all agricultural land. Oil palm development is considered more profitable, and thus people decide to convert their agricultural lands to increase their income. In this case, the local government of Pangkalan Bun has issued several policies, namely on agribusiness and food sovereignty. The steps taken are 1) increasing the empowerment of farmers and their supporting institutions, productivity, competitiveness, and added value of agricultural, plantation, animal husbandry and fishery products, 2) improving the development of agro-industry and agribusiness to empower the people's economy, and 3) strengthening the security of food sovereignty.

Keywords: Positive Impacts, Transfer of Agricultural Land Function, Oil Palm Plantations, Increase of Income

1 Introduction

Development plays a crucial role in creating good human resources and community welfare. Both are to manage existing resources so that job opportunities can be established for the sake of economic development. This process requires government and community participation.

Indonesia is aimed towards sustainable agricultural development. Numerous areas possess adequate agricultural land. However, sustainable development policies seem to have not yet been implemented optimally. One of the fields used by humans is land related to life, namely, used for development. Some development sectors require lands, such as the plantation, mining, forestry, housing, transportation and industrial sectors. From an economic point of view, land is the primary fixed input of the production activities of a commodity.

Over the years, agricultural land use in Pangkalan Bun Regency has been gradually decreasing. A significant factor of this decline is the transfer of land for palm plantations, which is considered more beneficial in terms of economy. Besides, land transfer also emerges due to gradual population growth in the area. Massive population growth makes the need for

IWLEG 2022, July 27, Semarang, Indonesia

DOI 10.4108/eai.27-7-2022.2326304

land for oil palm plantations that benefit people. Family accretion also contributes to land transfer since many people need houses. Apart from oil palm plantations and house-things, some lands have been converted into plots for shops, repair shops, and restaurants.

Generally, the chosen lands to be functionally transferred are located on the roadside, in some areas close to public facilities. This situation emerges due to increasing community needs and more excellent opportunities for business than farming.

The land transfer has both positive and negative impacts on farmers. Its positive impact is the monthly income increase, leading to better welfare. Meanwhile, the negative impacts are a lack of agricultural land, dense residential areas, reduced agricultural yields, and reduced water catchment areas—resulting in floods and droughts.

This study discusses the reality of the agricultural land transfer to non-agricultural functions in Pangkalan Bun Regency and how local government policies related to the case can improve people's welfare.

2 Literature Review

2.1 Definition of Agriculture

Agriculture is a production process based on plants and animals. It utilises biological resources carried out by humans to produce food, industrial raw materials, and energy sources. Agriculture can be aimed at managing the environment as well. Some common activities in this field are, for instance, crop cultivation and livestock raising. The scope can even be broader, namely microorganisms and bio enzymes use in the processing of the advanced product, such as cheese and tempeh production, as well as fishing or forest exploitation Arwati [1].

Meanwhile, Nurmala [2] defines agriculture as managing crops and livestock in a certain area without damaging it—so they can be used continuously. Based on both definitions, it can be concluded that agriculture is an activity of biological production carried out on land to produce plants and livestock to fulfil human needs without damaging them—so that it can be made use of continuously.

2.2 Land Transfer

Sulistyawati [3] mention that land transfer or conversion is a change of land function, whether partially or entirely, from the aforementioned purposes to others—which, unfortunately, brings the potential of negative impacts on both the land itself and environment. In terms of use changes or adjustments, the land transfer is caused by multiple factors, including the urgency to meet the needs of an increasing population and demands for a better quality of life. This is because some issues might arise due to land transfer and its policies. In this case, agricultural land transfer to the non-agriculture sector needs to be attentively considered due to the community's dependence on the agricultural sector.

Land transfer can be permanent or just temporary. If some land is changed into housing or industrial area, then it is permanent. Meanwhile, if the land transfer is for sugar cane plantations, then it is commonly temporary. Permanent land transfer triggers more significant issues than temporary one [3].

Utomo et al. (in Risky, 2017: 19) define land transfer as a change in function from the original into the new—which potentially negatively impacts both the land itself and the environment. Meanwhile, Yudhistira (2013) explain that land conversion can be viewed through several aspects, one of which is the land owner. Land transfer can be done directly by

the owner, typically those in the agricultural sector. Farmers generally transfer their lands due to the need for housing and capital to start a business. Farming is considered not enough to make ends meet—since the government often cannot manage the commodity price; thus, farmers tend to convert their agricultural lands.

2.3 Impacts of Transfer in Agricultural Land Functions

Sulistyawati [3] says that the impacts of transfer in agricultural land functions involve a broad dimension in reality. It is majorly related to the change in orientation of the economy, social, culture, and politics in the community. This situation both directly and indirectly influences economic settings, agricultural space management, and development priorities.

Sulistyawati [3] states that land conversion can cause direct and indirect impacts. The direct impacts are the loss of fertile agricultural land, loss of investment in irrigation infrastructure, damage to natural landscapes, and environmental problems. Meanwhile, the indirect impact is population inflation from urban to suburban areas.

2.4 Factors of Transfer in Land Functions

Sulistyawati [3] explain two factors affecting land transfer: direct and indirect. Direct or micro factors (farm level) directly influence the farmers' decisions. They include the socio-economic conditions of farmers, such as education, income, financial ability, land taxes, land prices, and land location. Meanwhile, indirect or macro factors (regional level) do not directly influence farmers' decisions. Instead, they affect other factors, eventually affecting the farmer's decision. These factors include population growth which affects the growth of residential development, and changes in the economic structure towards industry and services. Ultimately, it will increase the need for transportation facilities and land for industry.

According to Kamilah [4], farmer's income is obtained from agriculture and other sectors beyond that sector. In villages, the obtained income is generally not only from agriculture. This out-of-agriculture income can be divided into two: 1) income from business with an individual's capital such as trading, investing, and offering rent of land, and 2) income from being a labour, officer, and service provider.

3 Method

This study applied a comparative method to compare farmers' income before and after land transfer. It was done in Pangkalan Bun Regency. The data was quantitative and obtained from primary and secondary sources. The primary source was a questionnaire from agricultural landowners who converted their land. Meanwhile, the secondary source was data from the Central Statistics Agency of Pangkalanbun and the Agriculture Service of Pangkalanbun.

4 Result and Discussion

4.1 Reality of Transfer in Agricultural Land Functions

Pangkalan Bun Regency has a high population growth rate along with the need for housing and business. This situation requires an equivalent rate of land availability. The need for land indeed has been increasing, which is why the transfer of agricultural land function is hard to

avoid. Land conversion is a frequent choice to fulfil the need for housing and the economy. Many agricultural areas become oil palm plantations and residences since farmers decided to sell their lands. This phenomenon is then followed by the change in farmer's income.

The conversion of the agricultural land function to oil palm plantations, which has been occurring for the last ten years, has resulted in the absence of all agricultural land. The ongoing development process and the insistence on the need for living costs have led to a paradigm shift in society; development projects for oil palm are more important than maintaining agricultural land.

Table 1 is the data of the transfer in agricultural land function.

Table 1. Land Use Before and After the Function Transfer

Subdistrict	Land Use in 2021			Total of Land Area	Land Use in 2022			Total of Land Area
	Field	Non-Field Agricult	Non-Agricultur e		Field	Non-Field Agricultu	Non-Agricult ure	
010 South Arut	0.0	587.0	158,313.0	158,900.0		4,752.0	114,033.0	118,765.0
011 Kumai	0.0	403.0	286,396.0	286,799.0		4,972.0	243,437.0	248,589.0
020 Pangkalan	71.0	2,424.0	167,505.0	170,000.0		5,229.0	23,779.0	29,048.0
021 Pangkalan	0.0	535.0	72,064.0	72,599.0		3,687.0	48,980.0	52,667.0
030 North Arut	377.0	9,974.0	119,649.0	130,000.0	343,0	18,114.0	132,834.0	150,948.0
031 Kotawaringin	167.0	6,864.0	34,569.0	41,600.0		11,190.0	74,884.0	86,074.0
Total	620.0	23,958.0	1,623,516.	1,648,094.	343.0	99,057.0	2,099,982	2,199,382.

(Central Statistics Agency (BPS) of Pangkalan Bun Regency 2022)

Table 1 demonstrates that the total field in 2021 is 620.0 ha, and it decreases to 343.0 ha in 2022. This decline is due to the conversion of land functions, especially from agricultural land to non-agricultural land. In the Pangkalan Bun Regency, some farmers' lands have been converted into oil palm plantations and residential areas.

More detailed data on farmers' income before and after the land transfer is described table 2.

Table 2. Farmers' Monthly Income Before and After the Land Transfer

No	Umur (th)	Daerah	Luas lahan (m)		Pendapatan		Selisih pendapatan
			sebelum alih fungsi	sesudah alih fungsi	sebelum alih fungsi lahan	sesudah alih fungsi lahan	
1	48	SP 1	2000	1500	Rp 37,000,000	Rp 42,900,000	Rp 5,900,000
2	51	SP 1	1000	500	Rp 12,000,000	Rp 17,700,000	Rp 5,700,000
3	62	SP 1	1000	500	Rp 12,250,000	Rp 18,750,000	Rp 6,500,000
4	60	SP 1	1000	500	Rp 30,210,000	Rp 37,000,000	Rp 6,790,000
5	61	SP 1	1000	1000	Rp 39,800,000	Rp 45,000,000	Rp 5,200,000
6	50	SP 1	1000	1000	Rp 11,450,000	Rp 15,000,000	Rp 3,550,000
7	55	SP 1	1000	500	Rp 19,950,000	Rp 24,000,000	Rp 4,050,000
8	63	SP 1	2000	2000	Rp 15,433,000	Rp 21,000,000	Rp 5,567,000
9	50	SP 1	2000	2000	Rp 18,200,000	Rp 20,500,000	Rp 2,300,000
10	55	SP 1	1000	500	Rp 20,000,000	Rp 23,900,000	Rp 3,900,000
11	56	SP 1	2000	1500	Rp 16,650,000	Rp 25,000,000	Rp 8,350,000
12	60	SP 1	2000	1500	Rp 21,150,000	Rp 24,000,000	Rp 2,850,000
13	50	SP 1	2000	1000	Rp 16,770,000	Rp 20,000,000	Rp 3,230,000
14	47	SP 1	2000	1500	Rp 19,950,000	Rp 24,000,000	Rp 4,050,000
15	58	SP 1	2000	2000	Rp 14,450,000	Rp 19,500,000	Rp 5,050,000
16	48	SP 1	1500	1500	Rp 22,500,000	Rp 29,000,000	Rp 6,500,000
17	60	SP 1	2000	1000	Rp 29,000,000	Rp 31,000,000	Rp 2,000,000
18	60	SP 1	1500	1500	Rp 28,550,000	Rp 32,000,000	Rp 3,450,000
19	36	SP 1	2000	2000	Rp 25,540,000	Rp 29,000,000	Rp 3,460,000
20	62	SP 1	1000	1000	Rp 20,550,000	Rp 27,000,000	Rp 6,450,000
21	52	SP 1	1000	1000	Rp 10,500,000	Rp 13,000,000	Rp 2,500,000
22	56	SP 1	1500	1000	Rp 40,000,000	Rp 43,000,000	Rp 3,000,000
23	45	SP 1	1000	1000	Rp 38,000,000	Rp 42,000,000	Rp 4,000,000
24	48	SP 1	1000	500	Rp 45,000,000	Rp 48,000,000	Rp 3,000,000
25	52	SP 1	1000	500	Rp 40,500,000	Rp 44,000,000	Rp 3,500,000
26	59	SP 1	1000	500	Rp 35,500,000	Rp 38,000,000	Rp 2,500,000
27	50	SP 1	2000	15000	Rp 41,000,000	Rp 44,000,000	Rp 3,000,000
28	49	SP 1	1000	1000	Rp 30,000,000	Rp 35,000,000	Rp 5,000,000
29	65	SP 1	1000	1000	Rp 32,000,000	Rp 39,000,000	Rp 7,000,000
30	56	SP 1	1000	500	Rp 30,000,000	Rp 40,500,000	Rp 10,500,000
31	47	SP 1	1000	1000	Rp 33,000,000	Rp 38,000,000	Rp 5,000,000
32	53	SP 1	1000	500	Rp 29,000,000	Rp 40,000,000	Rp 11,000,000
33	47	SP 3	500	500	Rp 31,600,000	Rp 40,000,000	Rp 8,400,000
34	58	SP 3	1000	500	Rp 30,000,000	Rp 48,000,000	Rp 18,000,000
35	60	SP 3	1500	1000	Rp 40,000,000	Rp 55,000,000	Rp 15,000,000
36	46	SP 3	1000	1000	Rp 41,000,000	Rp 50,000,000	Rp 9,000,000
37	53	SP 3	1000	1000	Rp 35,000,000	Rp 40,000,000	Rp 5,000,000
38	48	SP 3	2000	1000	Rp 44,000,000	Rp 50,000,000	Rp 6,000,000
39	43	SP 3	1000	1000	Rp 35,000,000	Rp 45,000,000	Rp 10,000,000
40	55	SP 3	1500	1000	Rp 40,000,000	Rp 48,000,000	Rp 8,000,000
41	50	SP 3	1000	1000	Rp 30,000,000	Rp 44,500,000	Rp 14,500,000
42	49	SP 3	1000	1000	Rp 40,000,000	Rp 45,000,000	Rp 5,000,000
43	53	SP 3	500	500	Rp 25,500,000	Rp 30,000,000	Rp 4,500,000
44	57	SP 3	500	500	Rp 29,500,000	Rp 35,000,000	Rp 5,500,000
45	48	SP 3	1000	1000	Rp 35,000,000	Rp 50,000,000	Rp 15,000,000
46	61	SP 3	1000	1000	Rp 30,000,000	Rp 39,000,000	Rp 9,000,000
47	55	SP 3	1000	1000	Rp 25,000,000	Rp 30,000,000	Rp 5,000,000
48	62	SP 3	1000	500	Rp 10,000,000	Rp 20,000,000	Rp 10,000,000
49	49	SP 3	1000	1000	Rp 15,500,000	Rp 30,000,000	Rp 14,500,000
50	53	SP 3	1000	1000	Rp 35,600,000	Rp 50,000,000	Rp 14,400,000
51	60	SP 3	2000	1000	Rp 25,000,000	Rp 40,000,000	Rp 15,000,000
TOTAL					**Rp 1,433,603,000**	**Rp 1,780,250,000**	**Rp 346,647,000**
RATA-RATA					**Rp 28,109,863**	**Rp 34,906,863**	**Rp 6,797,000**

(Central Agency on Statistics (BPS) of Pangkalan Bun Regency 2022)

There is a significant difference in the average of farmers' before (28.109.863 IDR) and after (34.906.863 IDR) land conversion. The average difference is (6.797.000 IDR). This statistic indicates that land conversion leads to a more prominent farmers' income. After the land transfer, people have fixed income resources such as shops, repair shops, and restaurants—although the monthly total is uncertain.

Numerous social impacts arise due to the land transfer in Pangkalan Bun, namely:

1. The decrease in field areas triggers a decrease in rice production as well as disrupts the achievement of food self-sufficiency.
2. The decrease in field areas results in a shift in employment from the agricultural to non-agricultural sectors. Local workers have to compete with migrants.
3. The decline of the field ecosystem.
4. Increase in the average total income of farmers.

4.2 Policies on Agricultural Land Transfer to Oil Palm Plantations

Several external and internal factors cause the agricultural land conversion to oil palm plantations in Pangkalan Bun Regency. The external factors include population growth, selling price, business opportunity, and soil quality. Meanwhile, the internal factors are land location, productivity, and economy. The preceding factors encourage farmers to sell their lands, influencing their livelihood, employment status, and income.

The Pangkalan Bun local government, through the hand of the Head of the Pangkalanbun Regency Food Crops, Horticulture, and Plantation Service (TPHP), signed a collaboration with the Palm Oil Plantation Fund Management Agency (BPDPKS). This collaboration aims to increase people's income through agricultural productivity. The signing was held on July 4-6, 2022, by the Directorate of Plantation Protection (Ditjenbun) of the Ministry of Agriculture (Kementan) as the Secretariat of the Human Resources Team for Plantation Heads of Palm Oil (SDMPKS). The event was attended by 27 work units in charge of plantations in provinces/districts/cities from all over Indonesia.

Pangkalan Bun's agricultural policies are in the form of agribusiness development and food sovereignty. The steps taken are 1) increasing the empowerment of farmers and their supporting institutions, productivity, competitiveness, and added value of agricultural, plantation, animal husbandry and fishery products, 2) improving the development of agro-industry and agribusiness to empower the people's economy, and 3) strengthening the security of food sovereignty.

The Regent of West Kotawaringin, Nurhidayah, also distributed agricultural machinery assistance from the Ministry of Agriculture to farmer groups. Priority for agricultural development is still focused on achieving food, particularly rice and soybeans, as well as the production of other strategic commodities such as sugar, meat and horticulture. Therefore, the provision of agricultural tools or machines is considered capable of increasing production. Farmers will be more active and enthusiastic in cultivating food crops and horticulture because labour shortage issues have been resolved.

Nurhidayah also provided a Farmer's Card to facilitate farmers to get subsidised fertilisers. The recipients of the Farmer Card are members of registered farmer groups. Currently, there are 828 farmer groups with a total of 18,285 farmers. 11,109 farmers (60.75%) have been registered in e-RDKK. Those with issued cards are 10.940. The rest 169 farmers are still in the printing process (at the time this research was carried out).

Subsidised fertiliser is only given to farmers with land areas and types of plants that have been planned in the Definitive Plan for Group Needs (RDKK). Farmers can no longer buy

subsidised fertiliser at various shops because the data is only recorded at the nearest complete fertiliser markets. The farmer's card also ensures that farmers will get subsidised fertiliser according to their needs.

Pangkalan Bun's government also created an application to identify area potentials, typically in the agricultural sector. This application is meant to register and organise various aspects. Thus, well-structured data is expected.

The success of the development is frequently only seen from the increase in economic indicators, for example, in increased production of goods/services—without looking at the poverty level, which is marked by economic inequality and the number of unemployed. This is ironic since the economy is not only about production. Instead, it is also about reducing unemployment, eliminating poverty, and contributing to environmental conservation (green economy).

This can be seen, for example, in the oil palm plantation industry, which can simultaneously create economic, social, and ecological benefits. National CPO exports in 2017 contributed 239 trillion foreign exchanges (*www.pertanian.go.id*). In addition, oil palm plantations also produce broad economic benefits such as increasing the income of smallholders, producing food, biofuels, biomass and biomaterials, as well as producing social benefits such as absorbing rural workers, reducing poverty, and balancing regional development as part of the food and energy security system.

Data from the Central Statistics Agency of West Kotawaringin shows that the growth of the agricultural sector in West Kotawaringin in 2021 is 5.73%. The role of the agricultural sector in 2021 GRDP is 26.06%. Plantations, especially palm oil products, contribute 6.30%. The production of West Kotawaringin Plantation in 2021 is 73,776.38 Tons FFB/Ha/Y with a land area of 45,236.10 Ha. Meanwhile, the production of large private plantations is 93,190,945.92 Tons FFB/Ha/Y with a land area of 155,620.25 Ha. The number of workers absorbed as oil palm farmers based on the Central Statistics Agency data in 2021 is 13,032.

Although there has been a massive transfer of agricultural land functions to oil palm plantations in Pangkalanbun Regency, the local government still maintains rice farming, especially for the food security of their people. In other words, the positive impact of changing the function of rice-producing fields into oil palm plantations results in three simultaneous and inclusive benefits: economic, social, and ecological. Oil palm plantations are growing; economic, social, and ecological benefits are increasing. In addition, the benefits of oil palm plantations are not only enjoyed by those directly involved in oil palm plantations. This can be seen from the rapid development around large plantations in Pangkalan Bun, which was once deserted to become crowded; traditional shops have developed into large-scale ones, and traders in traditional markets are increasing, especially during the dates of the plantation employees' payroll.

5 Conclusion and Suggestion

5.1 Conclusion

Transfer of agricultural land functions by farmers can increase their income.

5.2 Suggestion

Farmers must pay attention to the impacts of transfer in the agricultural land function, typically the negative ones. Even though the conversion can incline their welfare, it does mean

that all lands have to be functionally transferred. The local government of Pangkalan Bun should also issue policies to determine and manage specific lands for agricultural interests.

References

[1] Arwati, Sitti. Pengantar Ilmu Pertanian Berkelanjutan. Makassar: Cv Inti Mediatama.2018.

[2] Nurmala, Pengantar Ilmu Pertanian. Yogyakarta: Graha Ilmu.2012.

[3] Sulistyawati, Devi Aryani. "Analisis Dampak Alih Fungsi Lahan Pertanian Terhadap Ketahanan Pangan Di Kabupaten Cianjur". Skripsi Sarjana, Jurusan Departemen Ekonomi Sumberdaya Dan Lingkungan Dan Fakultas Ekonomi Dan Manajemen Insitut Pertanian Bogor.Bogor.2014

[4] Kamilah, Ahya. "Analisis Ekonomi Alih Fungsi Lahan Pertanian Di Kota Bekasi (Kasus Kecamatan Bekasi Utara Dan Bantar Gebang). No. 1 (2013), vol 5.