



## Deagrarianization Problem and The Implications on Agricultural Policy in Indonesia

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### Abstract

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This paper discusses the existence of Indonesia as an agrarian country in Southeast Asia amid the threat of deagrarianization that is occurring worldwide. This study applied the Grant approach by combining the results of statistical quantitative studies to provide a more complete and clear explanation of the symptoms of deagrarianization in macro perspective. The results showed that deagrarianization is ongoing in Indonesia. This can be seen from the six main indicators, namely: a decrease in GDP from the agricultural sector, a decrease of farming households, a decrease in the number of rurals, a decrease in rural population, a decrease in labor participation in the agricultural sector, and a decrease in the extent of agricultural land. Those indicators show that agriculture is no longer a primary sector, but turned into a secondary sector.

**Keywords:** Agricultural labor; Deagrarianization; Food security

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### Introduction

In developing countries, the agricultural sector is the most important sector in the economy and absorbs a lot of labor (Hermawan, 2012). Indonesia is one of the well-known states in Southeast Asia as an agrarian country. Indonesia is an agricultural country with fertile land that promises decent living conditions in terms of food supply (Yulia et al, 2018). The United Nations-Food and Agriculture Organization (FAO) notes that Indonesia is one of the 50 countries in the world known as a producer of agricultural products. Timmer (2002) added that Indonesia is one of the five main agricultural producing countries in Southeast Asia besides Thailand, the Philippines, Vietnam, and Malaysia. Agriculture in Indonesia is supported by large-scale and small-scale agriculture. Large scale agriculture focuses on plantation commodities such as oil palm and rubber, while small-scale agriculture focuses on food crops and horticulture commodities.

The agricultural sector is fundamental in every aspect of life in Indonesia. The agricultural sector plays a crucial role in national development in Indonesia because it is a sector that provides food and sources of livelihood for its population. The shocks that occur in this sector are able to trigger political, economic, and social instability. The strategic role of the agricultural sector not only as a buffer to the national

economy, but also in the achievement of Gross Domestic Product (GDP), foreign exchange earnings, provision of food and industrial raw materials, employment, poverty alleviation, and society's income (Barichello & Patunru, 2009; Fatchiya et al., 2018). In general, the role of the agricultural sector in the national economy in Indonesia has a dual function. First, it has an economic function as a food provider and employment opportunities. Second, social functions relating to the preservation of rural communities as a cultural buffer.

Amid the importance of the agricultural sector, the threat of deagrarianization is occurring in many countries known as producers of agricultural products. Terano and Fujimoto (2009) noted a deagrarianization case in Sebrang Prai, Malaysia. This deagrarianization was triggered by infrastructure development that opened rural communities access to urban areas and industrial development through the construction of factories that offered jobs for rural communities. This condition causes the number of part-time farmers to increase. Dressler et al. (2018) also found a case of deagrarianization that occurred on Palawan Island, the Philippines. Deagrarianization is marked by the increase of the submission of traditional agricultural practices to commercial agriculture in the agribusiness scheme. The highland communities switch their livelihoods to lowland agricultural and copra plantation concessions. Meanwhile, Rehder et al. (2011) show cases of deagrarianization in Thailand. Deagrarianization is indicated by the reluctance of the younger generation to continue farming which was carried out traditionally by their parents. Structural changes due to improved access to education encourage the younger generation to choose work outside agriculture. Not only in Southeast Asia, cases of deagrarianization can be found in Africa, Europe, and Southern America. Spain is an example of a country in Europe whose symptoms of deagrarianisation are shown through the increase of abandoned agricultural land. This has an impact on the increase of outsourcing of agricultural production in rural areas (Murua & Astorkiza, 2013; Bourguignon, 2014). Banchirigah & Hilson (2009) show one case of deagrarianization that occurred in Ghana, Africa. Deagrarianization occurs due to mining expansion which triggers farmers to only do agriculture as part-time jobs.

Deagrarianization is a process of shifting social structure from an agrarian community to a non-agrarian community (Bryceson, 1996; Rigg, 2006). Some trajectories of transformation in rural areas are: sources of livelihoods in rural areas are increasingly diverse, sources of household income are shifting from agriculture to non-agriculture, livelihoods and poverty that are no longer related to land and agriculture, higher mobility in rural areas and a livelihood that does not rely on the local area, remittances increasingly play a role in household income in rural areas, as well as an increased average age of farmers. Macro deagrarianization can be measured in several ways, namely: a decrease in the degree of food self-sufficiency and basic needs of rural households, a decline in agricultural labor in rural households and also nationally shifting to non-agricultural labor, a decline in agricultural output per capita of a national economy shifted to non-agricultural output, as well as to a decrease in the population living in rural areas.

Deagrarianization is characterized by the economic activity, livelihoods, and the spatial repositioning of settlements, which is getting further from agrarian patterns (Bryceson, 1996; Bryceson 2002; Bogdanov et al., 2008; Rye and Berg, 2011; Chigbu, 2013; Pritchard, 2017; Steward, 2017). Deagrarianization places agriculture not as a primary sector, but has grown into a tertiary sector. Village communities have more flexible livelihoods, higher spatial mobility, and less dependence on agriculture (Rigg, 2001; Rehder et al., 2011; Rigg, 2006; Bryceson, 2002; Galani-Moutafi, 2013; Neal , 2013; Quintanal & de la Finte, 2013; Grivins & Tisenkopfs, 2018). Non-agricultural activities become increasingly important in rural areas. The number of farm households that are no longer committed to agriculture has also increased. Intensive use of agricultural lands is decreasing (deactivated) or even abandoned altogether (Murua & Astorkiza, 2013; Shackleton et al., 2018; Hebinck et al., 2018). This situation has changed the rural landscape where the land is no longer managed productively for food crops. Farming and agricultural activities stagnated (deactivated). Agriculture seems to be only a residue to accommodate those who are unable to compete and cannot take part in working fields outside the agricultural sector (Friedland, 2002; Gupta, 2005). Diversification of livelihoods starting from: urbanization, expanding trade and service provision, and depeasantization of social identity among younger generation widely occurs in rural areas (Anyidoho, et al., 2012; Chinsinga & Chasukwa, 2012; Ariyo & Mortimore, 2012; Leavy & Hossain, 2014).

The debate about deagrarianization is constructed in two perspectives. The first perspective sees that the exit of rural communities from the agricultural sector is a positive indication because it is believed to be an opportunity for rural communities to improve their standard of living (Bryceson, 1996; Rigg, 2006; Yaro, 2006; Quintanal & de la Finte, 2013). Deagrarianization shows that farmers are no longer dependent on agricultural activities and also land as a source of livelihood. In Rigg's (2006) concept, he explains that rural communities have succeeded in escaping from 'old poverty', which is the poverty that occurs due to dependence on traditional technology, limited income, and the inability to access resources. The shift of livelihoods from agriculture to non-

agriculture shows the ability of rural communities to diversify livelihoods, flexibility in choosing livelihoods, and reduced dependence on the agricultural sector. In this case, deagrarianization is believed to be an inherent process of social change and should be flexibly responded to various adaptation strategies. Deagrarianization does not imply that agriculture or the agrarian way of life is disappearing but rather emphasizes the increasing importance of income outside the agricultural sector or the increasingly diverse sources of livelihood.

Meanwhile, the second perspective sees that the exit of rural communities from agriculture is a negative indication because it is believed to be the beginning of proletarianization and triggers of poverty in a new form (Li, 2011; McCarthy & Sunam, 2016). Deagrarianization has brought 'new poverty'. It has indirectly dragged rural communities in a market economy where the preconditions for successfully exit from agriculture are not merely about increasing skills, education, and employment outside the agricultural sector, but also require economic capital which is often only afforded by community members who have greater resources. The transition from agriculture to industry does not always run as expected.

The prerequisites for exit from agriculture successfully are not easy. Every labor that exits agriculture must upgrade their education and expertise, as well as be able to access available employment information. The option to exit from agriculture and the process of transition to higher paid employment often encourages farmers to sell their land to invest in the education of their children. These investments are not always promising because the conditions after investment do not change to be better. Non-agricultural jobs with high salaries are not easy to find. Farmers who have invested education for their children must face more complex problems due to the rising trend of educated unemployment. Although off-farm work is available to those who exit from agriculture, the process of informalization of the workforce that triggers new forms of poverty, marginalization, and new forms of vulnerability are inevitable. Informalization provides limited opportunity for workers to escape poverty in rural areas. In this context, land, agriculture, and natural resources remain important in ensuring the sustainability of livelihoods for the majority of the rural poor. The availability of various agricultural activities allows better income for workers who do not have expertise. Land plays an important role as a safety net for the rural poor.

Deagrarianization occurs when there are several processes that trigger it, such as: farmers not to plant or produce that they normally plant (the conversion to higher value crops), the disappearance of traditional farming communities, the increasing number of part-time farmers, the stagnation of income from agriculture, the increasing number of elderly farmers, the reduced interest of the younger generation to become farmers, the more diverse sources of livelihoods in rural areas, sources of livelihoods that are no longer locally oriented (delocalization of livelihood), the lower agricultural productivity, and the increasing mobility of rural communities (Jacobs, 2002; Yaro, 2006; Terano and Fujimoto, 2009). High mobility of rural communities is strongly influenced by geographical location which allows closer commutation distances to industrial zones. Infrastructure improvements such as roads also have a major impact on commuting to existing factories or companies.

The shrinking of agricultural land is a major aspect that causes widespread deagrarianization. Deagrarianization occurs due to the continuing depletion of land and increasing pressure in the agricultural sector due to the globalization process which causes an increasing need for cash money (Rigg, 2001). Non-agricultural income is made to meet the needs that require cash. Land shrinking occurs due to the accumulation of certain people or groups that have a better living standard. The various processes that occur indicate structural adjustments made by farmers. The smaller access to land causes small farmers to no longer be able to rely on agriculture. Agriculture cannot be expected to be the main source of income nor an option for survival. The forms of agriculture that emerged also included 'absentee agriculture', which is agriculture owned and controlled by people who did not live in the village or were not residents of the village. Spatial interpenetration occurs, which is the shift of the rural economy and the attention of rural communities to non-agricultural activities. Deagrarianization shows the inability of farmers to compete with large-scale capitalist agriculture and market liberalization which triggers consumerism and environmental degradation that occurs due to population growth. The transition from agriculture to non-agriculture is not always 'voluntary' but also 'forced'.

The increased sources of livelihood that are no longer related to agriculture make it only one of many activities in the rurals (Bryceson, 1996; Rigg 2006). Livelihoods in rural areas are no longer connected to land and agriculture. Off-farm income reaches more than 50 percent of household income and livelihoods become increasingly diverse. This diversity context refers to the concept of diversification of livelihoods, which is the process by which farming families create a

diverse portfolio of activities and social support to survive and maintain their standard of living. This diversification of livelihoods is related to the transition from agriculture into off-farm and non-farm types of work that require more time and energy. Activities carried out by farmers are more oriented to accumulate assets and meet investment prerequisites to obtain greater profits (Steward, 2007; Pritchard et al., 2017).

Furthermore, this article will discuss the existence of Indonesia as an agrarian country in Southeast Asia amid the threat of deagrarianization. Deagrarianization is a transition from the agricultural sector to the non-agricultural sector which occurs widely in various rural areas. The term 'deagrarianization' was first raised by Bryceson in 1996 to highlight the symptoms of the increasingly insignificant position of the agricultural sector in many cases in Africa.

The study on deagrarianization has not yet been found, especially in Indonesia. The only study that uses the term 'deagrarianization' in the case of Indonesia is found in the study of Gandi et al. (2015) in Kutai Kertanegara, East Kalimantan. This study reveals the transformation of agricultural villages into mining villages. In his research, Gandi et al. found that mining industrialization changed the structure of land where land tenure was concentrated in coal mining companies. The industrialization of mining is increasingly encouraging people to work or have a livelihood outside agriculture. The limitation of this study is that it does not show the macro context of the deagrarianization underlying the shifting of community's livelihoods. Apart from that, conceptually, this study also did not discuss or explain the concept of deagrarianization and only used the terminology of deagrarianization directly in the conclusion. This paper is different from the study conducted by Gandi et al. (2015) because it seeks to provide a complete picture of deagrarianization by showing symptoms that occur at the macro level as well as dialoguing it in various literature on existing deagrarianization.

## **Research Method**

This study applied a meta-analysis based literature review approach (Grant, 2009). This approach was carried out by combining the results of quantitative studies statistically to provide a more complete and clear explanation on a particular topic. Through this approach, graphs and tabulations will be produced with narrative explanations. This approach can also be defined as a secondary data analysis approach. Secondary data analysis is a research method using secondary data as the main source.

Secondary data in this study were obtained from national statistical data sourced issued by the Indonesian Central Statistics Agency, among others: Statistics of Indonesia, Village Potential, and the Agricultural Census data. The data was grouped for thematic processing and analysis by tabulation using Microsoft Excel. The themes used in this data grouping were adjusted to the macro assessment of the presence symptoms of deagrarianization. The Data that has been processed and analyzed is presented descriptively by making serial comparisons. The processed data is then presented using graphs, tables and pie charts.

## **Results and Discussion**

Agriculture is no longer a rural characteristic and the exit of farmers from the agrarian sector, which is shown through the symptoms of deagrarianization, are the serious threat not only at the micro level on rural communities but also at the macro level on the food security of a country, especially in an agrarian countries. According to Yulia (2018), food security is a situation in which all households, both physically and economically, have the ability to meet the food needs of all family members. There are 3 dimensions implicitly contained, namely availability, stability, and ability to obtain and produce (accessibility to) food. Food availability implies that on average there is sufficient and available food supply. Stability can be seen as the ability to minimize the possibility of food consumption demand, especially in difficult times. Accessibility is reminiscent of the fact that despite abundant supply, many people are lacking the food as a result of limited resources to produce or buy the needed food. The following description will examine macro symptoms of deagrarianization in Indonesia.

### **The Decrease of Gross Domestic Product from the Agriculture Sector**

Gross Domestic Product (GDP) is one of the important indicators to measure the economic condition of a country and also one of the macro indicators to examine the ongoing

deagrarianization. Deagrarianization occurs when the role of agriculture in the national economic structure decreases or is dominated by other sectors outside the agricultural sector. Figure 1 shows that in 2019, the largest contribution to Gross Domestic Product (GDP) came from the Manufacturing Industry at 19.62%. The Agriculture, Forestry, and Fisheries placed second in contributing to the national GDP as 13.45%. This figure shows that the structure of the national economy has shifted from the field of Agriculture, Forestry, and Fisheries (primary sector) to non-agricultural business fields (secondary sector).

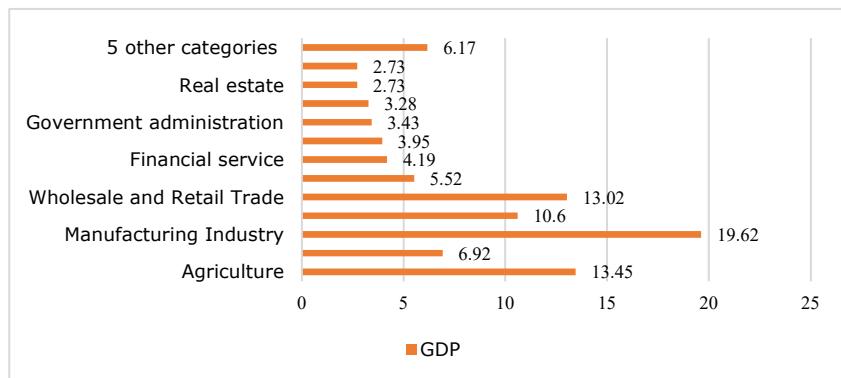


Figure 1. National Gross Domestic Product (GDP) according to Business Field  
(Source: BPS, 2020)

The decline in GDP figures is in line with the growth rate of the agricultural sector. The Agriculture sector continues to show a fluctuating trend that tends to decline which can be seen in Figure 2. In 2012, GDP growth was 4.59 percent. This figure in 2019 fell to 3.64 percent. Since 2012, the growth has never increased again to a figure equivalent to 4.59 percent or higher.

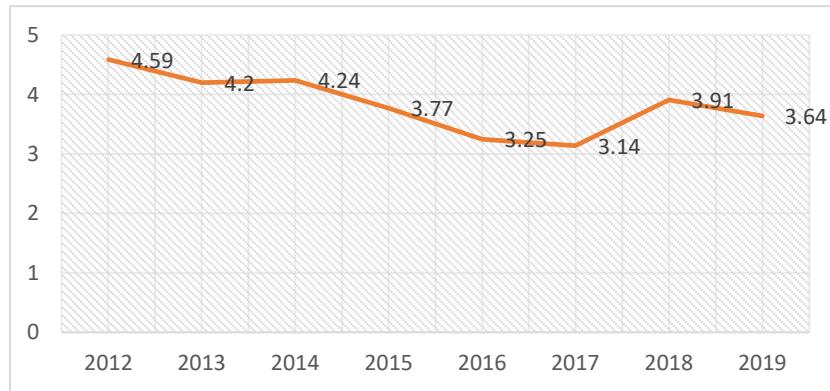


Figure 2. Indonesia's GDP growth according to the Agriculture, Forestry, and Fisheries Fields  
(Source: BPS, 2012-2020)

The decline in national GDP figures is in line with the results of the 2013 Agricultural Census which shows that from time to time, the contribution of the agricultural sector continues to decline. In 2003 the agricultural sector's share was 15.2 percent, and in 2013 it fell to 14.4 percent. The declining contribution of the agricultural sector to GDP clearly shows that the Indonesian economy is currently dominated by the industrial sector.

### The Decrease of the Number of Agricultural Households

Agricultural households are defined as households with at least one member of the household carrying out activities that produce agricultural products where part or all of the product is for sale/exchanged to obtain income/profit at own risk. Agricultural households are an important indicator in examining the symptoms of deagrarianization. This is possible because agricultural households are an important pillar of food availability. The situation of agricultural households in Indonesia from 2003 to 2013 can be seen in Figure 3. It is clearly seen that over the past 10 years, Indonesia has lost around 5 million farmers.

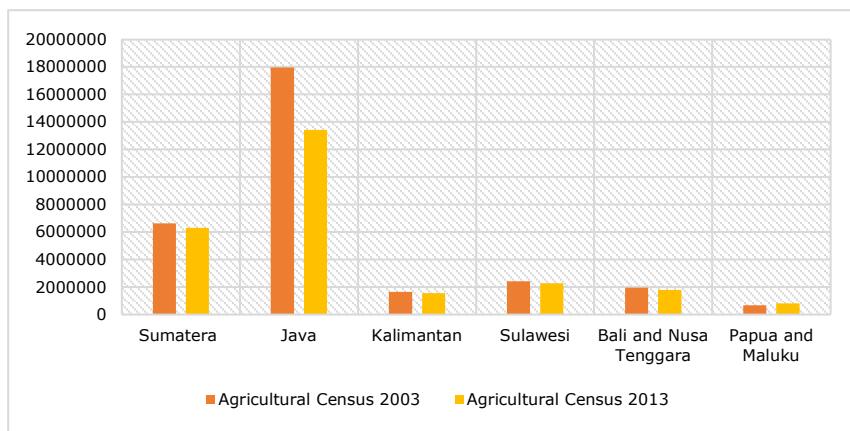


Figure 3. Number of agricultural households by main island in Indonesia  
(Source: BPS, 2013)

Figure 3 also shows that the decline in the number of agricultural households occurred in almost all main islands in Indonesia, except in Papua and Maluku. The largest decline mainly occurred in Java where 25% of households that initially started farming, in present (in 2013) flocked to leave the sector. At a more macro level, the results of the 2013 Agricultural Census stated that the number of agricultural business households in 2013 was 26.13 million or decreased by 5 million compared to the results of the Agricultural Census in 2003. The reduction in agricultural households shows the tendency that farmers are excluded from the agricultural sector and then work in the informal sector in urban areas. This macro symptom shows that there has been a shift from the agricultural sector to the non-agricultural sector or deagrarianization. Farmers prefer to switch to other sectors outside the agricultural sector.

### The Decrease of Agricultural Villages

The symptoms of deagrarianization can be seen through the decline of agricultural villages. This condition can be observed from the transformation in agricultural villages in Indonesia during the last 8 years from 2003 to 2018. The decline of rice based agriculture villages has been going consistently for almost the last decade. Village Potential Data from 2003 to 2018 shows a decline in rice based agriculture villages from 70 percent in 2003 to 41 percent in 2018 as shown in Figure 4. This is in contrast with plantation villages that have been increasing. In 2003 the number of plantation villages was 12%, then increased to 25% in 2018.

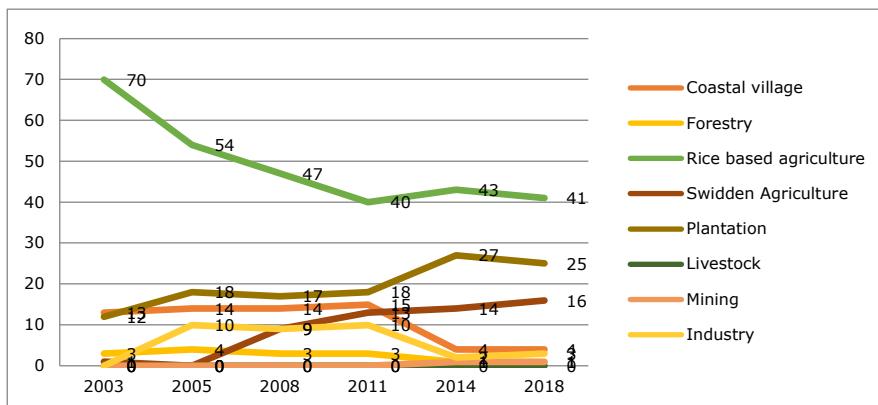


Figure 4. Decline in Agricultural Villages in Indonesia  
(Source: Processed from Village Potential Data, 2019)

The decline of agricultural based villages is simultaneous with the pace of industrialization and urbanization which is growing very fast (Syuaib, 2016). The stagnant rate of agricultural growth pushed rural communities to leave their agricultural lands and look for other jobs in various urban sectors. The exit of farmers from rurals due to urbanization have made agricultural villages no longer a productive food-producer village.

In the end, the villages are only meant as a place to go home or spend retirement, but not as a reliable place to get a source of income. Rice field-based villages switch to other types of villages (mainly plantation villages) in which the role of the private and commercial commodities of the plantation has eliminated the village's role as a source of food and cultivation for the villagers themselves. Deagrarianization poses a real threat to agricultural villages because the agricultural sector is deemed to lose the capacity to provide adequate economic returns.

### The Decrease of Population in Rural Areas

The other symptoms of deagrarianization can also be seen from the decline of rural populations in Indonesia. This situation can be seen from the proportion of the rural population that has continued to decline, from 50.2 percent in 2010 to 46.7 percent in 2015. Figure 5 clearly shows that in 2035 the population living in rural areas is projected only remaining 33.4% (BPS, 2013). The urbanization rate at the national level in 2035 is projected to be above 80 percent. Rapid urbanization has transformed Indonesian society from rural-characterized society to urban-characterized society.

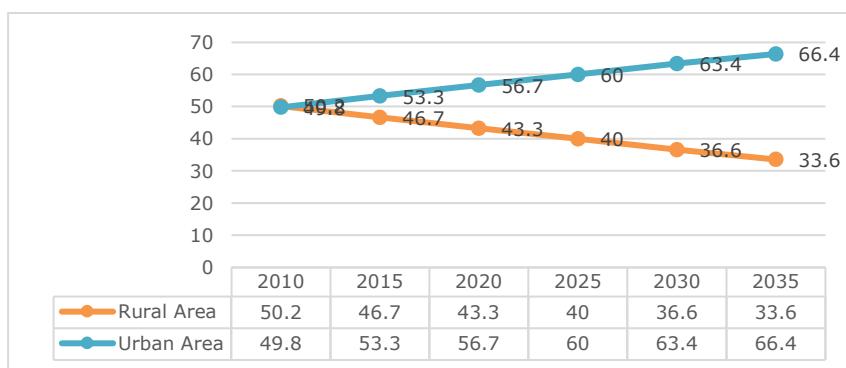


Figure 5. Projection of Indonesian Population Living in Rural and Urban Areas in 2010-2035 (Source: BPS, 2013)

This decline in rural population is in line with what was assessed by Bourguignon (2014). Deagrarianization shows a serious symptom that causes an increase in villages that no longer have uniqueness by their traditional agricultural activities or are called 'dead villages'. This situation is demonstrated through depopulation in rural areas and the conversion of farmers into wage laborers.

### Labor Participation in the Agricultural Sector

Deagrarianization can also be traced from labor participation in the agricultural sector. Figure 6 shows that the agricultural labor data from 2012 continued to decline from 35.09 percent to 27.33 percent in 2019. This trend is in contrast with the labor in the industrial and service sectors which actually continues to increase. This is one of the proof that agriculture is not a desired business field.

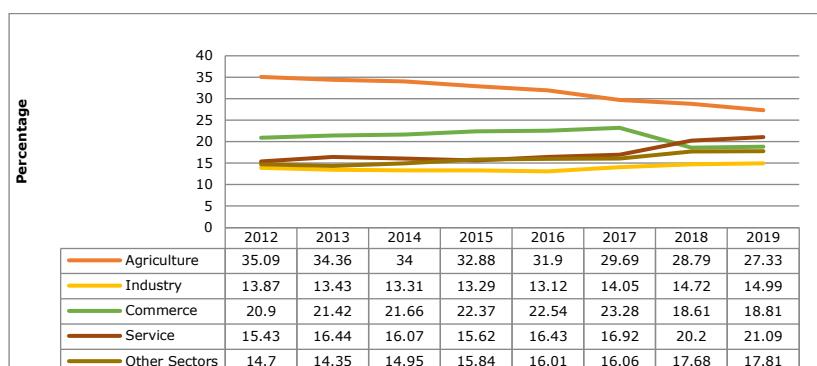
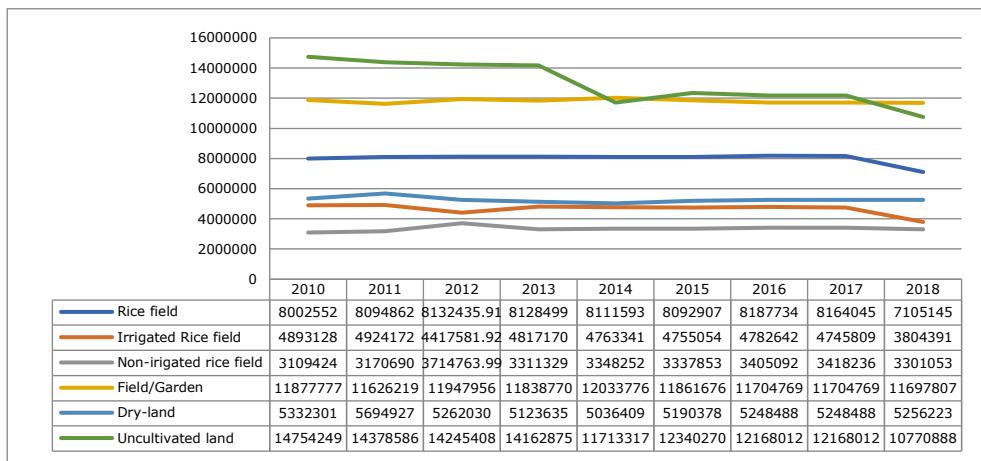


Figure 6. Agricultural Labor in Indonesia 2012-2019  
(Source: State of the Indonesian Labor Force per-August, BPS 2012-2019)

The reduced labor participation in the agricultural sector is one of the triggers for livelihood dislocation. This can be seen from the switch of farmers to be migrant workers abroad, non-agricultural income that exceeds 50% of total household income, greater physical and time spent on non-agricultural activities, as well as more work orientation on accumulation. The reduced labor participation in the agricultural sector has caused dependence on imports of agricultural labor from outside the village.

### **The Decrease in Agricultural Land Area**

The decline of agricultural land area is also a macro indicator of deagrarianization. Hall et al. (2011) state that the deagrarianization occurs due to the reduction of agricultural land as an impact of large-scale conversion of agricultural land. In the Indonesian context, this situation can be seen from the comparison of the area of agricultural land from 2010-2018 as shown in Figure 7.



*Figure 7. Comparison of Rice Fields, Irrigated Rice Fields, Non-Irrigated Rice Fields, Fields / Gardens and Unrealized Land in Indonesia, 2010-2018*  
(Source: Pusdatin Secretary General of the Ministry of Agriculture, 2018)

The extent of agricultural land, especially rice fields, both irrigated and non-irrigated rice fields continues to decline. Over the past 9 (nine) years, rice fields have decreased by 897,407 hectares. The biggest reduction is in irrigated rice fields covering an area of 1,088,737 hectares. Meanwhile, the non-irrigated rice fields have been reduced by 191,629 hectares. Reduction of agricultural land shows that there is a pressure on the agricultural sector. The reduction or shrinking of agricultural land means that there is also a reduction in land sovereignty. This will have a further impact on the shrinking scale of the agricultural economy. The smaller scale of agricultural business will not be profitable for farmers, which at the further level will make agriculture no longer as a business field to be a fundament of the economy.

### **Policy Implications**

Alignment with agriculture is the key to the existence of an agrarian country. Protecting agriculture must include protecting farmers and their agricultural landscape. Agrarian resilience plays an important role to ensure that farmers have guarantees to pursue their agricultural activities. As alluded to in the Law of the Republic of Indonesia No.6 of 2014 concerning Villages, socio-cultural resilience maintained in rural communities is highlighted. Agrarian resilience is an important pillar of the socio-cultural resilience of rural communities. They are an inseparable part of the objectives of village regulation which states that villages need to be protected and empowered to be strong, advanced, independent and democratic to create a strong foundation in carrying out governance and development towards a prosperous society. The decline in the typology of rice based agricultural villages is an affirmation and in line with the findings of this study that farmers face a high risk of agriculture. The choice of leaving agriculture is considered as 'reasonable'. In this situation, policies to improve the welfare of farmers must be pursued.

## Conclusions

The macro analysis shows that the symptoms of deagrarianization have and are ongoing in Indonesia. This can be seen from the six main indicators, namely: a decrease in GDP from the agricultural sector, a decrease in the number of agricultural households, a decrease in the number of rural villages, a decrease in rural population, a decrease in labor participation in the agricultural sector, and a decrease of the extent of agricultural land. This indicator shows that agriculture has not become a primary sector, but has turned into a secondary sector.

For the agrarian countries, the transition of the agrarian sector to the non-agrarian sector becomes an important signal that agriculture is in a precarious condition. This transition is part of the process of transformation of the economic structure that marks the increasing level of progress of a country. On the other hand, the gradually shrinking role of the agricultural sector in the economy shows that there are other sectors that are dominating. It must be fully realized that deagrarianization can potentially create new poverty.

If the macro symptoms have already occurred in Indonesia, it needs to be understood that inclusion of rural communities in a market economy requires many preconditions. The prerequisites for exit from agriculture successfully are not enough just by increasing expertise, education, and employment outside the agricultural sector, but also require economic capital. Economic capital is often only afforded by rural communities who have greater resources. For this reason, deagrarianization has the potential to widening the gap between the class of the rich and the poor in rural communities. The transition from agriculture to industry does not always succeed as expected. The prerequisites for successfully exit from agriculture are often only open to the solid economy class, but not for the weak.

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