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A Review of Indonesia's Agriculture Development in Recent Years 2014 - 2018

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INTRODUCTION

The challenge of Indonesian agricultural development is how to achieve the fulfillment of the needs of the leading commodities of food crops, horticulture, livestock, plantations and the increase in exports of agricultural products. For that future agricultural development, planning must be based on the optimization of resources that are integrated. The 2015-2019 period, the agricultural sector is still faced with various obstacles, including (1) poor quality of human resources and lack of farmers' extension; (2) damage to infrastructure / irrigation networks; (3) the reduced and expensive wages of agricultural labor, and (4) fertilizer and seed requirements that have not been met according to site-specific recommendations. The subject of Indonesia's economic mission is a sovereign and prosperous Indonesian population. To achieve the country's dream, Indonesia still faces many obstacles and challenges. To that end, President Joko Widodo has established the *Nawacita* program which contains the mission and vision of the administration of the 2014-2019 Working Cabinet.

The performance of the agricultural sector has now begun to be able to realize *NawaCita's* dreams. The agricultural sector contributes 13.63% to the growth of gross domestic product based on a survey by the Central Statistics Agency related to economic growth in the second quarter of 2018. This paper will discuss the performance and achievements of the government in agriculture, outlining the programs held by the Minister of Agriculture and its results.

The nine country hopes, desire and agenda

The Nine Country Hopes, Desire and Agenda named *Nawacita* is the nine main goals and mission of President Joko Widodo to create Indonesia that is politically sovereign, economically independent, and has a solid cultural personality. It is stated in the mandate of *Nawacita* to realize food sovereignty that aims Indonesia to be a nation that can regulate and fulfill its people's food needs sovereignly, namely (1) fulfilling food needs from domestic production, (2) regulating food policies independently, and (3) protecting and improving the welfare of farmers as the main actors in food agriculture. The Ministry of Agriculture has a very important role in realizing this target.

Indonesia achieved the best performance on Food Sustainability Index

The Economist Intelligent Unit and Barilla Center for the Food and Nutrition Foundation released the Food Sustainability Index (FSI) in December 2016. The results of the research show that Indonesian agriculture is among the top 25 in the world. The country studied two-thirds of the world's population covering 25 countries and 87% of the world's total gross domestic product (GDP).

Indonesia is ranked 21st with a score of 50.77 after Brazil and is above the United Arab Emirates, Egypt, Saudi Arabia, and India. For sustainable agriculture, Indonesia ranks 16th (score 53.87) after Argentina and is above China, Ethiopia, the United States, Nigeria, Saudi Arabia, South Africa, Egypt, the United Arab Emirates, and India. In this category, Indonesia scores high on the availability of abundant water resources, low environmental impact of the agricultural sector on land, environmental biodiversity, land productivity, and climate change mitigation. Meanwhile, from the aspect of food loss and waste, Indonesia is ranked 24th (score 32.53) after the United Arab Emirates and is above Saudi Arabia. In this aspect, Indonesia is included in the medium category in an effort to overcome the problem of loss of food (food loss).

Furthermore, the nutritional challenges aspect, Indonesia is ranked 18th (score 56.79) after Brazil and is above Turkey, Russia, Egypt, Mexico, South Africa, Nigeria, and India. In this category, Indonesia is considered capable of overcoming the problem of micronutrient deficiency, the prevalence of excess nutrition, malnutrition, excess sugar, and being able to buy fresh food.

The results of the 2017 FSI are very encouraging because Indonesia, including 25 major countries, as the only ASEAN country, surveyed and the results beat other major countries. This is a remarkable achievement in agriculture in the era of President Joko Widodo's leadership.

A significant increase in agricultural production

The performance of the agricultural sector at the beginning of the administration of President Joko Widodo has produced great work, both in the form of increased production, exports and the welfare of farmers, which are borne out of increasing purchasing power. Recorded based on the 2016 Central Bureau of Statistics, there has been an increase in food production in 2015.

Rice production reached 75.4 million tons, corn 19.6 million tons, soybeans 0.963 million tons, chili 1.915 million tons, sugar cane 2.58 million tons, palm oil 29.34 million tons, and meat 3.015 tons. Meanwhile, 2014 rice production was only 70.84 million tons, corn 19 million tons, soybeans 0.954 million tons, chili 1.88 million tons, sugar cane 2.55 million

tons, oil palm 27.78 million tons, and meat only 2,885 tons. This increase in domestic production had the effect of increasing the export volume of rice, corn, soybeans, shallots and chili commodities in 2015 which reached 290,035 tons, while exports in 2014 were only 115,617 tons.

Increase in employment in agriculture 2017

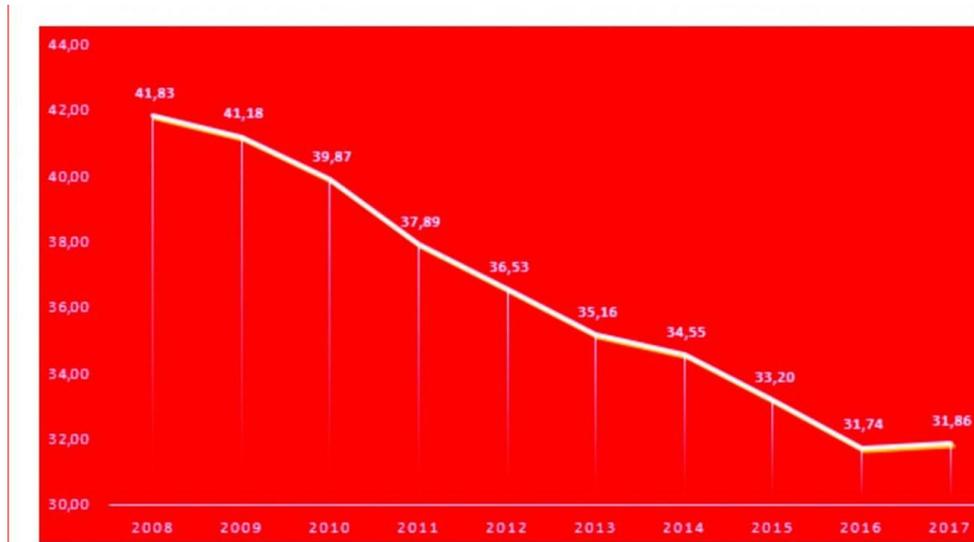


Fig. 1. Graph of the development of the number of Indonesian agricultural employment 2008-2017 (in percent)

Based on the graph above, the number of workers in the agricultural sector experienced a drastic decline from 2008 to 2016. However, in 2017, it began to increase. According to Indonesia's statistical center, in 2017, employment in the agricultural sector made the biggest contribution in history for ten years. Around 32% of Indonesia's population works in the agricultural sector. This shows that government efforts and programs in regenerating farmers are considered successful.

The agricultural sector reduces Indonesia's poverty rate

Based on data from the Central Statistics Agency, in 2014, national food inflation was 10.57%, down to 1.26 % in 2017. The value of Agriculture's Gross Domestic Product (GDP) price in 2017 was recorded at Rp. 1,344 trillion (US\$ 94 billion) from Rp. 995 trillion (US\$ 66,7 billion) in 2013. This agricultural GDP was growing with a huge influence on poverty, because agriculture was mostly cultivated by rural farmers, thus contributing to income and welfare. As of March 2015, the number of poor people in rural areas was 17.94 million, then decreasing to 17.66 million in 2016, and fell again to 17.01 million in March 2017.

The percentage of poverty as of March 2018 was the lowest, down 0.3% from the data in September 2017. In September 2017 there were 26.58 million poor people while in March 2018 it was recorded at 25.95. Therefore, 630,000 people in Indonesia have escaped from their poverty within 6 months.

Top government program 2014-2018

From 2014 to 2018, the government organized many programs and activities for the

realization of *Nawacita* or food-sufficiency. However, there are programs and activities carried out which have many obstacles in their implementation, so that they are still not efficient and effective even though these are some of the best programs that can bring a positive impact on agricultural productivity, farmers and the poor. Below are descriptions of the updated programs from a four-year period that has a significant impact on the community and productivity of agricultural production.

Indonesian agricultural bureaucracy deregulation

The Ministry of Agriculture has taken a number of steps to improve the investment climate. This policy resulted in a trend of increasing investment in the agricultural sector in the 2013-2017 period which reached 56.7 %.

Deregulation and service improvement carried out by the Ministry of Agriculture based on the provisions of Presidential Regulation No. 91 of 2017 concerning the Acceleration of Business Enforcement. The Ministry of Agriculture succeeded in simplifying 15 into 1 regulation of Minister of Agriculture and revoked 140 Minister of Agriculture regulations related to the fiscal year. In addition to removing regulations that hinder development, efforts to deburred the acceleration of agricultural business permit services have also been carried out.

As a result of this deregulation, the largest increase was in domestic investments, from Rp. 6.94 trillion (US\$ 480 million) in 2013 to Rp. 22.88 trillion (US\$ 1.6 billion) in 2017 with the dominance of the plantation subsector, the horticulture and livestock sub-sector, as well as the livestock subsector in 2017 (Lia, 2018).

Government Assistance Program

The Government Assistance Program (GAP) is a program held by the Ministry of Agriculture that aims to increase production, productivity, and quality of food crops. This program is regulated in Minister of Agriculture Regulation No. 46 of 2017, which discusses the design of government activities and programs. In the government's efforts to advance Indonesian agriculture and food self-sufficiency, this program is aimed at all people with a mission of national food sovereignty and increasing the productivity of national agriculture production. The assistance is in form of agriculture award (money), financial aid, scholarship for agriculture extension, agriculture machinery, farming land, infrastructure/material to establish farming area.

Rice farming insurance program

The government held a program for the protection and empowerment of farmers, published in both the Regulation of the Ministry of Agriculture No. 19 of 2013 on the Protection and Empowerment of Farmers and Regulation of the Ministry of Agriculture No. 40 of 2015 on Agricultural Insurance Facilitation. Government promotes rice farming insurance program to encourage small farmers to develop the regional economy by improving agriculture sustainability and food security. The program provided the compensation to the participants of the program in the event of floods, drought or pest attacks that result in damage to rice crops. Compensation is awarded under the condition that the rice has been planted for at least 10 days if planted manually, at least 30 days through direct seeding technology, or the damage intensity and the extent of damage reach $\geq 75\%$ in each natural plot area. (Andoko & Liu, 2017c). This insurance program has a positive impact on farmers, as an example of drought in early 2018, farmers have compensation for unproductive land. The purpose of this

program is well conveyed, namely to provide protection to farmers

Cooperative farmers

Cooperative Farmers is an organization formed by the Minister of Agriculture which aims to encourage small-scale farmers' productivity. It is an organization that synergizes business activities through empowering farmers. The organization is based on corporate principles and is profit-oriented, so farmers are very likely to become independent after joining it. Small-scale farmers are enabled to form farmer groups with members having different capabilities, technologies, and levels. CF will be formed as an organization that will encourage diversity within an area where each member can work together to boost the production rate (Andoko & Liu, 2017d). In its implementation, Cooperative Farmers forms as an institution or communities even in villages and corners of the country. This collaboration produces many positive impacts on small-scale farmers because it significantly boosts their productivity. Not only is there increased production, but there is also progress in education and togetherness to uphold food-sovereignty.

How current government address the issue in Indonesian agriculture

To realize food self-sufficiency, the Indonesian government still faces many issues and problems in its operation and distribution. These problems are slowly resolved, but due to the geographical size of Indonesia, these issues still exist in various locations in Indonesia. The following are the biggest issues facing Indonesian agriculture and how the government is trying to overcome them.

The irrigation system

The current irrigation system is less optimal. Three big problems faced today are that nationally, 80% of water for agricultural needs tends to be wasteful. Sixty percent (60%) of the existing irrigation network has not been utilized optimally and there has been damage to the hydrological balance in the watershed. In 2017-2019, the government has launched the Technology of Water Harvest Infrastructure Development through the use of water and rivers. The program involves at least 8 million workers, 20,000 businesses and is expected to alleviate poverty in 250,000 villages.

Human resources

The biggest challenge in Indonesia is the quality of human resources. In order to improve the quality of a country, human resources are the main key. The Ministry of Agriculture, through the Agency for Extension and Development of Agricultural Human Resources according to its mandate, aims to improving the quality of human resources. Agriculture supports the achievement of targets. The government will advance the quality of human resources through Integrated Farmer Empowerment Movement (GPPT) through Extension, Education, and Training.

The Indonesian Ministry of Agriculture established two programs to improve human resources in agriculture, the Integrated Farmer Empowerment Program (GPPT) and Farmers Regeneration Program (GRP). Directed by the Ministry of Agriculture, both programs have the same mission, to encourage the young generation of today to plunge into the farming industry. While methodology in attracting young farmers varies, a major focus of the program is to introduce better-implemented technologies into the agricultural process. In addition, the

Ministry of Agriculture is working with the College of Agricultural Extension (STPP), a high school still within the scope of the Agricultural Human Resources Development (BPPSDMP), and a number of universities to promote professions in agriculture. The Ministry of Agriculture selects potential students and trains them for three years to become an entrepreneur engaged in the field of agricultural business in the upstream, downstream or even in cultivation. Such practices help the government achieve its primary mission to regenerate Indonesian farmers and to create employment in agricultural business with professional human resources (Andoko & Liu, 2017a) as cited as (BPPSDMP, 2016).

The integrated farmer empowerment movement is a series of implementation of activities to improve the quality of agricultural human resources in supporting the achievement of Special Efforts Program (UPSUS) to increase production and productivity of seven priority commodities that are systematically and comprehensively designed from aspects of training, education and counseling, all of which empower farmers able to become a reliable main actor in applying the recommended technology to increase production and priority commodity productivity in an institutional unit based on farmers. With the support of all important elements, namely agricultural extension agents, village-level students, and non-commissioned officers are expected to be able to mobilize farmers to achieve the success of the program.

To overcome the lack of interest of the younger generation in the agricultural sector, the Ministry of Agriculture has six strategies for regenerating farmers in 2019. First, the transformation of vocational higher education. Six Agricultural Extension Colleges which were originally only studied programs (agriculture, plantations, and livestock), plus the orientation of horticultural agribusiness, plantation agribusiness, mechanization of agriculture, should be oriented. Thus, in the future there will be a growing number of young people who are prepared to become farmers and agricultural entrepreneurs; initiation of a program to grow young agricultural entrepreneurs in collaboration with 16 state universities; involvement of students / alumni / youth farmers to intensify mentoring / escort programs of the Ministry of Agriculture; growing joint business groups focused on agriculture for young farmers; training and apprenticeship for young farmers in agriculture; optimization of extension agents to encourage and develop farmer youth.

The need for fertilizers and agricultural machineries

In the previous year, farmers faced the problem of a fertilizer crisis and agricultural machineries that hampered the productivity of agricultural production. This is considered to be the biggest problem in the agricultural ministry agenda so that through the Minister of Agriculture has distributed aid in the form of agricultural machinery since 2014. But the number has not been maximized, so the latest regulations have emerged into Ministry of Agriculture Regulation No. 46 of 2017 pursued by Government Assistance Program which states that the government totally supports farmers and communities of fertilizers, pesticides, and agricultural machineries. Under this regulation, the government increased the amount of agricultural machinery assistance to 600% of the previous amount. This support has been channeled since 2017 until now and will continue until 2019 according to the Work Plan 2019.

Food price stabilization

The problem of affordability of food prices is also an obstacle for small farmers. Price inequality between regions also confuses customers. To overcome this, the government, through the Ministry of Trade, released the Food Stabilization Movement and through the Ministry of Agriculture, in 2017 released the Strategic Food Price Information Center as an

official website, is aimed at providing access to the latest food price information for the community, and concurrently supporting the formulation of inflation control policies. Public access to such information is expected to address the issue of price gaps and enable price stability. (Andoko & Liu, 2017b). Efforts to stabilize national food prices are also supported by export-import activities. The Minister of Trade also supports efforts to stabilize domestic food prices.

Food price stabilization also has an impact on reducing the price gap so that farmers' wages can increase maximally. The price gap is also triggered by middlemen cheating so that the existence of a food price stabilization policy will help stabilize and curb the prices of agricultural products. This policy has a positive impact on consumers and producers as well as the stability of national food prices

Ministry of Agriculture's Strategy 2019

In 2020, Indonesia's population is projected to reach 271.1 million. The huge population needs sufficient food to be provided, both in terms of quantity and quality. Looking at the above conditions, within a period of five years (2015-2019) the Indonesian Government needs to prepare policies and strategic steps, real and consistent in an effort to provide food for all levels of the Indonesian population in sufficient quantities, both in quantity and quality nutrition. One of the efforts to provide food is to improve the quality of food distribution and consumption in the country which can strengthen food security to achieve food sovereignty. (Katadata, 2018)

In the period of five years (2015-2019), the target of food distribution in the context of achieving food security is the realization of increased food distribution and accessibility of all levels of society supported by food distribution supervision to prevent speculation and supported by increased government rice reserves in order to strengthen price stability.

While the target for consumption is the achievement of an increase in the quality of food consumption so that by 2019, calorie consumption reaches 2,150 Kcal and fish consumption 54.5 kg per capita per year. In the same year, the target of the Hope Food Pattern score was 92.5. In 2014, the three consumption indicators only reached 1,967 Kcal and 38 kg of fish per capita per year and the Hope Food Pattern score was 81.8.

The Minister of Agriculture submits a proposal for national priority activities which will be used as the objective of the 2019 Work Plan. First, seed production and propagation through the development of nurseries; Second, increasing water supply through improvement of irrigation networks and the construction of reservoirs, long storage, dam ditches; Third, the modernization of agriculture through Government Assistance Program to increase the assistance of agricultural machinery tools; Fourth, the development of strategic commodities of rice, corn, soybeans, sugar, beef / buffalo, chili and shallots; The fifth acceleration of increasing garlic and the development of imported substitution commodities; The sixth is also still continuing efforts to self-sufficiency in food, namely the supply and multiplication of broodstock breeds through the Special Obligatory Breeders Cattle (*Upsus Siwab*); The seventh boosts agricultural productivity through the printing of rice fields in the border area and new development areas and optimization of dry land and swamps; The eighth is related to the development of human resources in agriculture, namely increasing vocational education and training. Boosting agricultural exports is also included in the next priority, namely the development of export-oriented food barns in border areas; Ninth, alleviating poverty and improving the welfare of poor farmers in rural areas by launching the People's Poverty Operation Program (*Bekerja*).

Case study: Indonesian maize production lead Southeast Asia

In the midst of the issue of fluctuations that occur in the availability of domestic rice stocks, different conditions are actually shown in the stability of domestic corn commodity production. Based on data from the Ministry of Agriculture, local maize production has been able to meet domestic market demand in the past five years. In 2017 the amount of corn production reached 26 million tons, an increase of 40.6% compared to 2013. The highest growth occurred in 2016 with a production value of 23.6 million tons. As well, the growth of corn production is also supported by the extension of the corn harvest area.

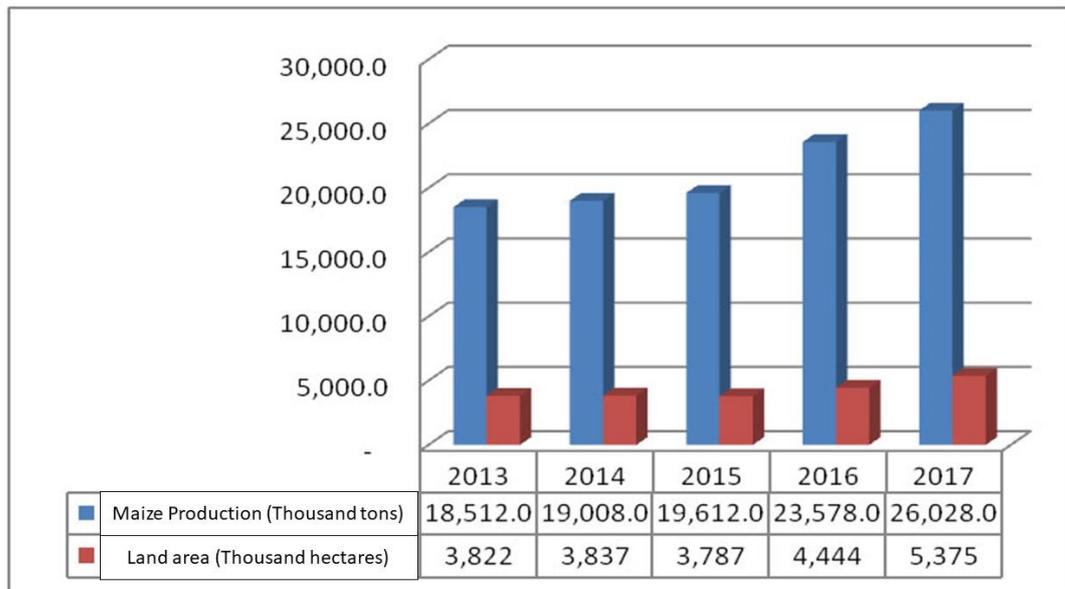


Fig. 2. Graph of development of total production and harvest area of corn commodities for 2013-2017

The corn harvest area has also expanded over the past five years. Although the area of harvested land in 2015 had declined, the following year experienced growth in a row namely 2015 (17.35%) and 2016 (20.98%). Then at present, the domestic market demand for majority corn needs is focused as animal feed (70.9%), other uses (26.6%), and for consumption only at 2.4%. Meanwhile, the majority of corn production during 2013-2017 was in the eastern part of Indonesia, such as North Sulawesi Province (56%), West Nusa Tenggara Province (34.38%), and South Sulawesi Province (16.43%). Whereas in Java, the provinces of East Java (8%) and Central Java (4%) are located. The increase in corn production in several regions in the country has pushed Indonesia as the largest corn producer in the Southeast Asia region. Referring to the ASEAN Food Security Information System report, in 2016 the total corn production in the ASEAN region reached 43.1 million tons, of which 49.4% was the largest contribution from Indonesia. Meanwhile, corn export commodities currently tend to target the Southeast Asia region.

The negative impacts

Food sovereignty is one of the priority programs in *Nawacita*. In 2014, the Government targeted self-sufficiency in a number of strategic food commodities such as rice, corn, soybeans, and sugar that could be carried out in three years. Food self-sufficiency began to be

realized, but it turned out to raise other issues. Imports of several commodities were successfully suppressed, one of which was corn. In 2017, the government did manage to suppress corn imports from 3.6 million tons in 2015 to only 900 thousand tons in 2016. Based on data from the Ministry of Agriculture, corn production rose 18.11 percent from 2015 to 23.16 million tons in 2016.

However, according to the Institute for Development of Economics and Finance (INDEF), stopping the import of corn turned out to have another negative impact. A total of 483,185 tons of imported corn were held at the port. Data shows that corn prices during the harvest in March rose from Rp. 4,000 (US \$ 28 cents) per kilogram to Rp. 4,500 (US \$ 31 cents) per kilogram. So that also causes the price of animal feed to increase by almost 20%. (Zuhra, 2017).

CONCLUSION

The government of Joko Widodo's presidency working cabinet has produced many results in the country's agricultural development. The role of agriculture is enough to take the most important position in the Indonesian economy. The government worked hard in overcoming Indonesia's agricultural problems through the establishment of agricultural programs and policies. This government program also succeeded in reducing Indonesia's poverty and inflation rates. Agricultural production and productivity also increased dramatically, employment rates in agriculture also increased.

Every year, farm households shift their livelihood towards the industry. As a result, employment in agriculture continues to decline each year. For this reason, the government needs to stimulate farm households by means of Government Assistance Programs, Farmers Insurance to protect the farmers, Cooperative Farmers to boost their productivity as well as improving the selling of their products. Irrigation problems have also been solved, the Minister of Agriculture also improve irrigation lines by 3 million hectares nationwide to increase productivity.

The agricultural program is currently able to improve Indonesia's food security compared to other countries. Also able to reduce domestic poverty. Agriculture is one of Indonesia's strongest foundations. so that every movement of the government of agriculture is very important. Through this paper we have studied how the Indonesian government solved the problem of agriculture and the results provide good influence to all Indonesians.

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