

# Threats To Food Security in The Food and Energi Barn Area: Agricultural Land Function Change in Bojonegoro Regency



## Ancaman Ketahanan Pangan di Lumbung Pangan dan Energi: Alih Fungsi Lahan Pertanian di Kabupaten Bojonegoro

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ARTICLE INFORMATION	
<b>Keywords</b> <i>Food Security;                      Conversion of Agricultural Land;                      Bojonegoro;</i>	<b>ABSTRACT</b> <i>This study aims to analyze how the threat of food security is due to the conversion of agricultural land in Bojonegoro Regency, which is used as an oil and gas industry. As we know, the slogan of Bojonegoro Regency is the Food and Energy Barn. However, this slogan also raises the question of whether the two aspects of food and energy can be balanced or if they will only harm one another. This study uses a descriptive qualitative method supported by data to strengthen the author's argument. The results of this study state that the slogan of the Bojonegoro Regency with Food and Energy Barns is a questionable thing in reality. Districts with abundant natural wealth of oil and gas pose a threat to food security due to the many shifts in the function of agricultural land. The impact of the conversion of agricultural land in several villages also causes various economic and environmental impacts. The Bojonegoro Regency Government needs to review and think about strategies to manage and make the Bojonegoro Regency slogans real and have an impact on the surrounding community. Researchers provide policy recommendations with balanced management between the oil and gas and food sectors for the sake of realizing it as a District of Food and Energy Barns.</i>
<b>Kata Kunci</b> Ketahanan Pangan; Alih Fungsi Lahan Pertanian; Bojonegoro;	<b>ABSTRAK</b> Penelitian ini bertujuan menganalisis bagaimana ancaman ketahanan pangan akibat alih fungsi lahan pertanian di Kabupaten Bojonegoro yang dijadikan industri migas. Seperti yang kita ketahui slogan Kabupaten Bojonegoro adalah Lumbung Pangan dan Energi, namun slogan ini juga menimbulkan pertanyaan apakah kedua aspek antara pangan dan energi dapat seimbang ataukah hanya akan merugikan satu dengan yang lainnya. Hasil dari penelitian ini menyatakan bahwa slogan Kabupaten Bojonegoro dengan Lumbung Pangan dan Energi menjadi hal yang dipertanyakan di realitasnya. Kabupaten dengan melimpahnya kekayaan alam migas menimbulkan ancaman bagi ketahanan pangan akibat banyaknya peralihan fungsi lahan pertanian. Dampak alih fungsi lahan pertanian di beberapa desa juga menimbulkan berbagai dampak ekonomi dan lingkungan. Pemerintah Kabupaten Bojonegoro perlu meninjau dan memikirkan strategi untuk mengelola dan menjadikan slogan Kabupaten Bojonegoro menjadi nyata dan berdampak bagi masyarakat sekitar. Penulis memberikan rekomendasi kebijakan dengan pengelolaan seimbang antara sektor migas dan pangan demi terwujudnya sebagai Kabupaten Lumbung Pangan dan Energi.
<b>Article History</b> Send 20 <sup>th</sup> March 2022 Review 18 <sup>th</sup> April 2022 Accepted 19 <sup>th</sup> May 2022	Copyright ©2022 Jurnal Aristo (Social, Politic, Humaniora) This is an open access article under the <a href="#">CC-BY-NC-SA</a> license. Akses artikel terbuka dengan model <a href="#">CC-BY-NC-SA</a> sebagai lisensinya. 

## Introduction

Bojonegoro is a district known as the Food and Energy Barn (Agustono, 2011). Given its vast territory, this slogan is quite reasonable. Bojonegoro has an area of 230.706 hectares and a population of 1.311.042 people spread over 28 districts. According to statistics from the Bojonegoro Agriculture Service, the terrain is dominated by agricultural areas. Bojonegoro has normal agricultural land of 78.487 hectares with 193.492 farmers. However, according to data from the Department of Agriculture, during the period of one year, in 2014-2015, an area of 184.525 m<sup>2</sup> or 18,45 Ha of agricultural land has changed functions. Most of the agricultural land in Bojonegoro Regency is used for oil and gas development or oil and gas.

District government strategies should help to balance the two sectors that are critical to Bojonegoro's long-term development. The government of Bojonegoro Regency is more attracted towards the oil and gas industrial sector in the event that occurred in Bojonegoro. Various policies that favor the oil and gas business over the agricultural sector demonstrate this. Indeed, one of the major issues in providing food in the future will be growing population growth in Indonesia while simultaneously reducing the number of farmers. The interruption of food security in Bojonegoro is due to this. Poverty is intimately linked to food security. The effects of the food crisis are felt not only by farm laborers who do not own agricultural property, but also by construction workers, low-wage transportation employees, fishers and craftspeople in rural areas, and even marginal farmers.

The change in the function of agricultural land in Bojonegoro is proven by around 600 hectares of agricultural land have been converted for the Cepu Block oil and gas business. Concerns about food security will be exacerbated by this conversion of agricultural land. This land conversion has an impact on food production and the welfare of rural communities who depend on agricultural land for their livelihoods (Awang; et al, 2016). The economic position of the people began to shift. Farmers began to look for alternatives to relying on agriculture to meet their needs. Now, they are turning to the mining industry for help with mining activities, for example, by being security guards or working in non-skilled capacities or becoming entrepreneurs to help with mining activities.

Increased communal income levels will result in many positive things. The mining industry has a significant impact on wage growth in the non-mining sector. With its oil and gas potential, Bojonegoro attracts many investors, including the Cepu Banyu Urip Block. In Indonesia, Bojonegoro is said to be the third largest contributor to the oil and gas sector industry. This influx of investors has a positive impact on the Bojonegoro economy as a whole. This can

be seen from the economic growth in Bojonegoro, which is generally positive, and the poverty in Bojonegoro, which is generally negative. However, this has a detrimental impact on the people of Bojonegoro, especially the farmers who lost land that must be taken over for the Banyu Urip Cepu block, where all the land used is rice fields, which they rely on daily for survival (Suprpti et al., 2012).

When land was sold, those with agricultural roots faced difficulties. Several changes have occurred, including the inability of the community to find labor after they no longer have land to produce. In addition, the community faces challenges in the transition from farmers to non-farmers, with educational backgrounds also being supporters. This resulted in institutional changes as well. Given the shrinking area of agricultural land, changes in social economic institutions can result in changes in farmers' views on the future use of agricultural land (Ramond & Spoehr, 2013). National food security is an effort to ensure the fulfillment of the food needs of a nation or country and is one of the main goals of national development. Food is a vital need for all living things to survive and preserve their existence.

The need for food grows along with the population growth of a society. Discussing food security also means discussing the factors that cause a person's inability to meet their nutritional needs. These factors include food availability, income, and employment, all of which can affect whether or not a household is able to meet its nutritional needs. and food for all family members. Food difficulties will occur if food demands are ignored, which is a threat to the country or the state. The availability of food is mainly determined by several things, namely the area of land sufficient to grow food crops, the population to provide labor, money to provide the necessary agricultural capital, and skilled labor.

Food security at the regional level will be affected by floods that occur every year. Food insecurity can be divided into two categories, namely chronic and temporary food insecurity. Bojonegoro Regency, which is known as the largest oil and gas producing area in Indonesia, also has the potential for an agricultural industry that is no less large. If we examine it more deeply, the supply of non-renewable oil and gas in a few years will surely run out. On the other hand, the agricultural industry can ensure the sustainability of the regional economy in the long term. However, the two sectors of oil and gas and agriculture are one slogan of the Bojonegoro Regency which must be realized by the Bojonegoro Regency Government.

The two sectors of energy and food must be able to go hand in hand. The conversion of agricultural land to the oil and gas industry sector in Bojonegoro can be a threat to food security if the government's management is not optimal. Therefore, the author wants to examine this issue

by providing arguments and policy recommendations in order to realize Bojonegoro's slogan namely, the Regency with Food and Energy Barns. In any developing location, the process of land conversion is unavoidable. As in Bojonegoro, developing communities typically see rapid population increase, which is followed by a growing demand for land for settlements and other public infrastructure, including industry. Land conversion can also be a catalyst for other socioeconomic changes.

On a macro level, the shift in land function would limit the amount of agricultural land available, perhaps resulting in lower food production. Because of the community's reliance on agriculture, particularly food, the conversion of agricultural land is an issue that requires attention. It is directly connected to the demand and supply of land in land conversion operations, where the supply or supply of land is highly restricted but the demand for land is not. Land conversion that is not adequately planned may upset the ecosystem's equilibrium, perhaps resulting in calamities. Land use change can result in decreased land ownership, lower food supply, and changes in employment structure at the family level.

Research related to food security in Bojonegoro Regency is something that is rarely explored more deeply. In fact, if you look at the slogan, Bojonegoro is a city with agricultural and energy potential in Indonesia. However, the two sectors do, in fact, have related impacts. Previous studies have emphasized the impact of oil and gas management and agricultural land conversion on Bojonegoro. Therefore, it is important to use a different perspective when viewing agriculture and oil and gas in Bojonegoro. In addition, in looking for novelty research in this study, researchers used VOSViewer software. Although there are many software programs to analyze text units and matrix similarities, the advantages of VOSviewer are in the visualization aspect (van Eck & Waltman, 2010).

The results of VOSViewer processing by researchers show that research trends regarding oil and gas and agriculture in Bojonegoro are related to the impact of oil and gas management. In addition, in research on the impact of the conversion of agricultural functions such as the community's economy. Research that is rarely done, according to VOSViewer analysis is related to aspects of food security. With the results of this, VOSViewer can prove that research on food security is still rarely researched and that this is an opportunity for researchers to develop research related to this matter. Therefore, the researchers conducted a study on the threat of food security in Bojonegoro Regency, which has the slogan Barn for Food and Energy.

## **Method**

This is a qualitative study with a descriptive component. Qualitative research aims to better comprehend the phenomena that the study subject is experiencing (Mohajan, 2018). We gathered data for this study through a literature review. Data reduction, data presentation, and conclusion drafting are the data analysis strategies used in this study. In addition, in looking for novelty in this study, researchers used VOSViewer software. Although there are many software programs for analyzing text units and matrix similarities, the advantages of VOSviewer are in the visualization. The results of VOSViewer processing by researchers show that the research trend in the conversion of agricultural land in Bojonegoro is more on the aspect of impact on the surrounding community. However, to see the reality of Bojonegoro as a regency with the slogan of Food and Energy Barns Regency, no one has researched yet. This is an opportunity for researchers to develop research related to the threat of food security associated with the realization of the slogan Bojonegoro as a Regency with a Food and Energy Barn. Therefore, researchers conducted research on the threat of food security in the food and energy barn area.

## **Results and Discussion**

### **Change of Function of Agricultural Land for Oil and Gas Industry in Bojonegoro**

Land conversion or conversion is a mechanism that brings together land demand and supply, resulting in new land institutions with various characteristics of the production system. The increasing population and standard of living, the strategic location of agricultural land in demand for non-agricultural activities, the smaller the ratio of non-agricultural income to total income, fragmentation of agricultural land, environmental degradation, regional development interests that often sacrifice the agricultural sector, weak law enforcement, status of unclear land ownership, and narrow land ownership are factors that contribute to land conversion (Irianto, 2013).

Petroleum is a non-renewable natural resource, so mining activities must be carried out carefully. Indonesia has a lot of potential natural resources, both in terms of oil and gas and non-oil and gas resources. One of them is oil, a natural resource that gives the Indonesian government foreign currency. Bojonegoro Regency is a large oil and gas city with large reserves. Mining operations in Bojonegoro Regency have increased dramatically in recent years, especially oil mining in Gayam District. Of course, as the number of petroleum mining operations in Gayam Regency increases, so does the demand for land to support these operations. The demand for land for a mining area of 700 hectares in Gayam Regency will

most likely result in the conversion of agricultural land. Most of the agricultural areas in Gayam District are fertile agricultural land with semi-technical irrigation systems and rain-fed irrigation systems (Mulyo & Sigyanto, 2015). Bengawan Solo River sources are the main water sources used to irrigate agricultural land in the Gayam District. The conversion of agricultural land will have an impact on the socio-economic conditions of farmers who rely on agriculture as their main source of income.

Farm laborers suffer greatly from the conversion of agricultural land because their livelihoods are very dependent on the availability of agricultural land in their area. Due to the conversion of agricultural land in Gayam Regency, most of the farm laborers lost their source of work, and many of them moved to other districts to work as farm laborers. Agricultural land conversion can have both beneficial and negative effects on socioeconomic factors. A good influence can be seen in the non-agricultural sector, which is developing with the construction of various facilities and infrastructure to meet the needs of the community. Furthermore, the non-agricultural sector generates more money than the agricultural sector, especially in the early stages of industrialization. Agricultural land conversion has a negative impact on the agricultural industry because it can result in the loss of employment opportunities and prospects (Rohmadiani, 2011). For example, the loss of investment returns from converted land, deteriorating regional agricultural economies, rising unemployment as farmers shift to non-agricultural jobs, the shrinking area of farmhouse farming, and food supply and security hazards.

Land conversion can have an ecological impact by causing environmental damage such as floods, landslides, and noise disrupting access to water supplies and indirectly influencing people's attitudes towards household waste disposal. Gayam area is one of the most productive sub-districts in Bojonegoro Regency. In addition, oil and gas, which is a new sub-district resulting from the merger of Ngasem and Kalitidu sub-districts, has the greatest potential. The expansion is carried out to make it easier for the government to provide services to the community and to bring the government closer to possible oil and gas sources, thus facilitating future decision-making. Gayam District is bordered by Ngasem District in the south, Kalitidu District and Malo District in the north, and Malo District and Purwosari District in the east. The majority of farmers work as landowners and farm laborers. The socio-economic activities of farmers are a general description of farmer's activities in mining areas.

The farmers' economy still relies on agriculture as its main source of income after mining activities. High economic growth does not always mean an equitable distribution of wealth or increased welfare. This situation can be observed in the level of welfare of farmers

in mining areas, where farmers are still classified as poor, although there are no specific statistics on the level of poverty among farmers in mining districts. The existence of the mining industry has not provided significant improvements to the economy of farmers, especially farm workers. Farm worker wages have been reduced as a result of changes in the use of agricultural land. In contrast to farm laborers who are also farmers and own land, farmers who only work as farm laborers rely heavily on income from farm laborers. They can continue to expect agricultural produce from the land they own, as well as farm laborers' income. Agriculture has undergone a transformation. The number of days it takes agricultural workers to work has decreased drastically.

Farm workers are more likely to be unemployed than to be working. This is because a lot of agricultural land around their village or the surrounding community has changed its designation. Farm workers' wages have been reduced as a result of changes in the use of agricultural land. In contrast to farm laborers who are also farmers and own land, farmers who only work as farm laborers rely heavily on income from farm laborers. They can continue to expect agricultural produce from the land they own, as well as farm laborers' income. Agriculture has undergone a transformation. The number of days it takes agricultural workers to work has decreased drastically. Farm workers are more likely to be unemployed than to be working. This is because a lot of agricultural land around the community or neighboring settlements has changed its function. Some agricultural workers started looking for extra money outside the district to support the economic needs of their families.

They both work as farm laborers, which is the same job. Social relations are essential for the development of social networks, which are the basis for farmer resilience. Farmers create their own social bonds without outside help. The pattern of social ties is built on community relations and mutually beneficial working partnerships. Farm laborers and landowners form dynamic social relations with each other. Farmers benefit greatly from the dynamics of social ties among farmers in terms of increasing family welfare and fulfilling family economic needs. Farmers have mutual trust and respect in their social relations, which are based on existing conventions. Farmers' social relations are quite strong. When farmers have difficulty, other farmers will try to help them find answers to their problems.

### **The Impact of the Transfer of Agricultural Land Functions on Regional Food Security**

The effect of land or land acquisition on the farmer's economy is divided into three categories, new possibilities and skills for the community; working conditions of farmers after purchase; and community income. When the Cepu Banyu Urip Block began to be built and

could be used by local residents, the economic prospects were there, especially with this large project encouraging many foreigners to rent or stop for a while to stay (Rifa'i & Mardiansjah, 2018). This has become the impetus for the establishment of new stalls or shops in Banyu Urip to suit the needs of workers or employees. In addition, there are various trainings that the community can receive so that the community can take part in various trainings to gain new skills in fields that have never existed before.

In addition to the availability of various community assistances, one of the current assistances is the provision of modern agricultural tools that can increase the economic value of the community at work. However, not all communities have a positive attitude towards this assistance or training, and various forms of agricultural assistance, such as tractors, horns are usually provided through the farmer group leader, and often the assistance only stops at the head of the farmer groups and not distributed to the community, so the community benefits less. In the end, farmers are the ones who are most disadvantaged by the Cepu Banyu Urip Block, because not everyone can benefit from it, their land is being sold, and the farmers themselves are mostly uneducated. Knowledge of farmers in other industries, especially those related to the mining industry, did not increase as a result of increased development activities in an area. Farmers' knowledge is based solely on their own personal experience and is not certified. Farmers are hesitant to take non-formal education courses because they are not assisted and are free of charge if they have to look for themselves (Supardi et al., 2012).

Depending on the farmer's livelihood strengths, each farmer has distinct strategies/measures to lessen susceptibility. The most common adaptation strategy can be defined as one that best represents farmers' resilience in the face of changing agricultural land usage. Few societal values have altered as a result of the Banyu Urip mining project in Gayam Village, such as the values of Gotong Royong and Clean Village, which are still practiced today. People with medium land utilize the majority of their money to build or refurbish houses and purchase automobiles; they rarely buy agricultural land or develop other enterprises. Residents that prioritize future directions over consumption patterns by starting enterprises and purchasing productive property will be better equipped to withstand oil and gas development in their area.

The arrival of the petroleum mining sector will certainly have an impact on the movement of individuals from outside the region, in particular causing population migration. The mining industry encourages people to move to villages around mining areas. The majority of those who enter are competent personnel needed by the organization. Although the presence of immigrants causes social jealousy, it does not result in social strife. The prospect of

employment in the mining industry is a source of social jealousy. Farmers think the mining sector will create jobs, but in fact, this will be difficult to do because of the low level of education and skills possessed by farmers. Ordinary farmers who want to mine are just manual laborers who work on a contract basis. The mining sector has a negative influence on agricultural productivity, especially in areas where agricultural land is close to the mining area boundary.

According to monitoring, the presence of lights on the fences of mining companies causes a decrease in agricultural productivity with a radius of agricultural area of up to 500 m from the fence. The light beam causes late harvesting of rice, corn does not want to bear fruit, and other agricultural crops take too long to bear fruit. In addition, the presence of the mining industry does not have a direct positive impact on farmers in the area. Only a handful of farmers can benefit from the existence of the mining industry, even if only temporarily. According to research findings, 47,5 percent of farmers believe that the mining industry has a negative impact on agricultural employment. Meanwhile, 52,5 percent of farmers said the existence of the mining industry had no impact on the absorption of agricultural labor. Increased mining activity in the Gayam District has a significant impact on the reduction of agricultural labor. Farmers who work as farm laborers and rely on other farmers' agricultural land are greatly affected by this situation. The loss of agricultural land has an impact on the number of working days of farm laborers in mining areas, so it has an impact on increasing unemployment.

### **The Urgency of Balancing Food Affairs and Oil and Gas Industry in Bojonegoro Regency**

The expansion of Banyu Urip mining activities presents two major issues, both of which are related to the activities of farmers in the vicinity. Increased unemployment in the agricultural sector as a result of reduced agricultural land, which has an impact on the availability of agricultural jobs and a reduction in the number of hours farm laborers work due to changes in agricultural land use, which have an impact on reducing the area of agricultural land. The challenges mentioned above are problems that develop in mining areas and must be handled by the regional government and mining companies. The existence of the mining sector, which should provide hope for the welfare of farmers, has yet to benefit local farmers' livelihoods. The government of Bojonegoro Regency has its own policy on oil and gas exploration in the Banyu Urip Field, which is located in Gayam Village, Gayam District, Bojonegoro Regency.

The Bojonegoro Regency Government has implemented local-based regulations which are often referred to as local content restrictions. This is because it is the only regional

regulation in Indonesia that controls natural resources based on local content, so this regional regulation has become the regional regulation of choice for the Bojonegoro government. As explained in the Bojonegoro Regency Regional Regulation Number 23 of 2011 concerning the Acceleration of Regional Economic Growth in the Implementation of Exploration and Exploitation and Oil and Gas Processing in Bojonegoro Regency. Therefore, with the presence of this local regulation, the contractor is obliged to recruit most of its workforce from the local community. This means that the local regulation is a pro-people regulation, and of course, it has an impact on the balanced economic growth of Gayam Village. The existence of this regional regulation also reduces social turmoil that has occurred between the community and contractors, especially MCL, which has occurred in the surrounding area, especially in the area closest to the oil and gas industry, Gayam Village.

In addition, the authors offer policy recommendations that can be made by the government of Bojonegoro Regency in developing agricultural potential and oil and gas energy. In terms of discussing the two things that cannot be used in one place, there must be a policy correlation between the two. Oil and gas income in Bojonegoro from profit-sharing funds can be used for agricultural development in other areas. Mining companies themselves have an obligation to allocate part of their funds to fund Corporate Social Responsibility or CSR. Based on the Bojonegoro Regional Medium-Term Development Plan (RPJMD) document for 2018–2023, it appears that the realization of CSR activities in Bojonegoro in 2018 reached Rp. 28,6607,896,250. From this nominal value, the company with the largest CSR contribution is Exxon Mobil, with a total fund of Rp. 20,500,000,000. The remaining amount was then filled with CSR funds from Pertamina, Bank Jatim, Panin Bank, Aston Hotel, Fave Hotel, and Griya MCM (Famelasari & Prastiwi, 2021).

In practice, the management of CSR funds is handed over by cooperating with a number of NGOs. Several NGOs that have access to the management of CSR programs by oil and gas companies in Bojonegoro have programs such as improving the community's economy, environmental care, and empowering women. As mining companies, Exxon and Pertamina carry out their CSR responsibilities well. In fact, the amount of CSR funds they disburse every year is getting bigger (Sholikin, 2019). In 2020, the total funds disbursed were around 34,5 billion, which was divided into two parts, with 60% going to mine-affected areas and 40% going to areas outside the mine. In managing these funds, the government of Bojonegoro, as a government actor, issued a policy related to the percentage distribution of CSR funds. The distribution, which was initially made entirely to mine-affected areas, was divided 60-40. This policy was adopted for the distribution of CSR funds as a development effort throughout the

Bojonegoro area. One of the NGOs involved as the manager of mining CSR funds, for example, is Ademos or Association for Democracy and Social Welfare.

Ademos received funds of around 1 billion as a partner of Exxon Mobil in order to provide accountability to nature and society. Ademos' work program is focused on empowering the community's economy through planting vegetable seeds. This was initiated because the local environment around their livelihoods is increasingly disappearing because the land they used to cultivate has begun to be purchased for the exploitation process. Management that is focused on improving welfare seems to lull environmental movements. The presence of NGOs has given a new color to social movements in Bojonegoro, especially NGOs that have ties to funds from ExxonMobil and Pertamina. Development issues are the focus of this kind of NGO movement, and appear to be a developmentalist-oriented group that takes advantage of development issues. The commodification of poverty and development issues is carried out by NGOs, these practices are symptomatic in Bojonegoro. This is what the Government of Bojonegoro Regency must look at because it is in order to create a vision and mission of the Food and Energy Barn.

The issue of food is very important to be given its own focus. The large number of conversions of agricultural land around the mining area will reduce the food supply in Bojonegoro Regency. Therefore, the Bojonegoro Regency Government can allocate oil and gas revenue-sharing funds by optimizing in areas that have the potential to become food producers in Bojonegoro. East Java Province provides the largest contribution to Indonesia's rice production. Bojonegoro Regency is responsible for most of East Java's rice production. Rice production in Bojonegoro Regency reached 737.397 tons of GKG in 2020, ranking third in East Java. Lamongan Regency with a production value of 873.786 tons of GKG ranks first. Then, with a total production of 829.467 tons, GKG was ranked second in Ngawi Regency.

Rice production in Lamongan Regency is higher than in Bojonegoro due to the large area of rice fields, especially irrigated rice fields. Bojonegoro's rice fields, on the other hand, are actually wider than those in Ngawi Regency. It's just that in Ngawi Regency the types of irrigated rice fields are more diverse. For this reason, a strategy for conservation of agricultural land in Bojonegoro is needed, as well as efforts to intensify and expand agricultural land. Seasons, especially the rainy season, still have an impact on rice production in Bojonegoro. The peak of rice production occurred at almost the same time that occurred at the national level. According to 2020 Population Census data, the population of Bojonegoro Regency was 1.301.635 people in 2020. If all Bojonegoro people were simulated, and rice was their main food, with an average per capita intake of around 300 grams of rice per day, then the need for

rice consumption would be the population of Bojonegoro Regency is projected to be around 142,5 thousand tons in a year.

Rice production in Bojonegoro is expected to reach 737.397 tons of GKG, or 424 thousand tons of rice, in 2020. This shows that Bojonegoro has a surplus of rice for personal consumption only. Although Bojonegoro Regency has experienced a rice surplus, in fact, rice production in Bojonegoro can still be increased again so that it can contribute to the national rice food needs. Ways that can be taken include expanding irrigated rice fields, maximum land management, such as the use of organic fertilizers to increase nutrients, adjust soil pH, and so on. If you look at the data, the average rice production from August to January is quite low, because the majority of rice fields in Bojonegoro are still rainfed, so the irrigation system needs to be improved and expanded. Based on the data above, it can be said that Bojonegoro has great potential in the national food granary sector.

However, the existence of the oil and gas energy industry sector in Bojonegoro requires the government to be wise to balance in developing these two sectors, considering the slogan Bojonegoro is the Food and Energy Barn. The government can use oil and gas proceeds for agricultural development in the Bojonegoro area. Considering the condition of the shift in the function of agricultural land to the oil and gas industry, it could pose a threat to regional and national food security. This really needs to be considered by the Bojonegoro Regency government. Utilization of oil and gas proceeds is very important for sustainable development in Bojonegoro, one of which is the agricultural sector, in order to create a food barn in Bojonegoro Regency.

## **Conclusion**

Based on the results of the above discussion, it can be concluded that agricultural activity in the Bojonegoro mining area has changed, with a large decrease in the amount of available agricultural land. Changes include not only the loss of agricultural production capacity as a result of land conversion, but also a reduction in the number of working hours or days available to farmers, particularly farm laborers. Changes in the use of agricultural land actually increase unemployment in the agricultural sector, especially among farm workers. The presence of the mining industry in Gayam District, for example, has had a negative impact on the welfare of farmers in the surrounding area. Farmers have very limited options for work in the mining industry. Although it is only physical work and only temporary, only a small number of farmers or their family members are able to work in mining projects. So far, CSR efforts and company compensation have not had a direct impact on the agricultural industry, which is

directly affected. The CSR program can certainly be directed at efforts to increase agricultural capacity through the development of the agricultural industry and increasing the capacity of farmers to support the agricultural industry, as well as improving agricultural infrastructure in the Bojonegoro Regency area, so that the Food and Energy Barn is nothing more than a slogan, but can be realized as a reality.

### Acknowledgement

The authors would like to thank all parties both within Gadjah Mada University and the environment around the research locus, Bojonegoro Regency, who always provide suggestions, opinions, and data so that this research can be completed. The author also hopes that this research can be further developed so that it can be used as material in the formulation of Bojonegoro Regency government policies related to the realization of food and energy barns in Indonesia.

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