Food security policy dilemma: A new institutionalism perspective

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Abstract. Food security is one out of primary concerns of national government and sub-national government for the sake of realizing national food security goal. There is a various policy has been implemented such as human capital enhancement, innovative technology, and preventing land conversion. However, the transformation of economic activity leads conversion from agricultural to non-agricultural land, thus, we analyze that there is dilemma in food security policy. This research uses new institutionalism perspective to analyze the dilemma of the policy. The national security policy could not fill the key problem of food security, where rational choice of actor is less out of the government concerns, therefore, the policy is less powerful in controlling the conversion of agricultural land.

1. Introduction
Food security is a complex issue which includes social, economic and political aspects. It sometimes become a major factor in the process of making decision for setting food security policies. Realizing sustainable food security is a national issue and the agenda of various countries and international institutions, food security is inseparable from three aspects including technology, human capital, and land availability.

Since food is one out of the primary needs for human being, sufficiency of the food availability is becoming as critical issue in the economic and political development for each country, including in Indonesia. Undang-Undang Nomor 18 tahun 2012 about food security has been clearly stated that food is the basic human needs and its fulfilment is belonging to the basic right of every single people of Indonesia. Many efforts have been made in maintaining food security. They are not only focused on improving technology and human capital enhancement but also the availability of land is an important factor to be considered in dealing with food security. However, currently the effort to maintain food security for the case of Indonesia, it shows the trend that the landowners are most likely to convert their land used from agricultural to non-agriculture functions, and as matter of fact it has been increasing from year to year due to the rational choice of farmers.

Another challenge that closed associate with land used conversion is the higher rate of population growth. It continues grow about 1.1 percent per year or 2.5 million people. Then, agricultural land conversion has been increasing made for the purpose of housing development. This continues growth of housing development as a result in the increasing rate of population growth, it has been become as a threat of land used conversation from agricultural to non-agriculture functions. Hence, land used conversation threaten the food production and ultimately food security.
Food security as a new policy concept has been published since 1974 during the world food conference [1]. According to [2] food security is a challenge that should take as a priority to achieve it for the welfare of the nation in the millennium era. It is also as primary concern of Sustainable Development Goals (SDGs) about world food availability. Historically, since 1798, Thomas Malthus had warned that the number of people had increased at exponential ratio, while efforts to increase food supplies was limited to an arithmetic ratio, which would leave a difference resulting in the want of foods and famine. In addition, various local famine events can be noted which sometimes extend to national famine which is very severe in various countries. Demand for foods is increasing along with the increasing population. Population growth is not the only factor that impedes national food security, but also the factor of reduced agricultural land that is converted into settlements and industrial land, has become a threat and a challenge for policy makers.

With increasingly lessen of agricultural land in Indonesia, results in lessen in agricultural production produced by the farmers. It estimates that in Indonesia, the conversion of agricultural land to non-agriculture functions would be increase with an average of 30,000-50,000 ha per year. While increased in economic needs of the farmers encourage increased in conversion land used into non-agricultural lands. The changing of living needs of farmers as termed as economic needs such as housing, education, and other related needs. In this regard that the government of Indonesia should take necessary concern on land availability and land conversion issue, since sufficient food supply is one out of the priorities in national development goals, therefore land reformed is badly needed. To secure a number of existing food lands so as not to be converted, and for the achievement of national development goals, UU Nomor 41 tahun 2009 about Protection of Sustainable Agricultural Land (LP2B) was formulated. With the Law 41/2009, food self-sufficiency is expected to be achieved. The development of the agricultural sector in Indonesia is currently facing various challenges with the increasingly limited ownership of land by farmers.

Agricultural land is the type of land that is most converted, especially paddy fields. This occurs due to the low incentives or income received by farmers while managing paddy fields compared to use for activities in other sectors. This fact causes the community to take option for selling their farming land for sake of to meet their children's educational payment or selling it to the developers and even they utilize their farming land for building storehouses other than it utilize as agricultural land.

Thus, the high rate of land conversion has an impact on reducing the availability of food for the population which could pose a threat to national food security. The food needs of the population are expected to increase along with the increase in population. An increasing population demands a higher food availability and food production in conversion agricultural land situation in Indonesia.

2. Agricultural Land Protection Policies in New Institutional Perspectives

The new institutionalism is a new political science perspective. This perspective began to develop in the 1970s which not only studied politics from aspects of normative and institutional policies as the old institutionalism or traditionalism approach. New institutionalism also focuses on aspects of individual behaviour, ideas, conflict, to economic and political structures.

The new institutionalism perspective generally considers that institutions important for influence events, behaviour and political change. Hall and Taylor [3] divide the approach of new institutionalism into three groups of theories, namely historical institutionalism, rational choice institutionalism and sociological institutionalism. In the study of political science, these factors are usually different approaches. The idea factor is a normative or deconstructive approach. Individual behaviour factors are generally a behavioural approach (positivism) or rational choice.

The New Institutionalism approach of rational choice explain the institutionalization process as an instrumental method or mechanism to solve various collective problems (collective action dilemmas). In general, human beings are seen as rational individuals who act and behave at the urging of rational interests and choices. Every political action of rational actors is based on the thought, profit and loss considerations and the owner of agricultural land so that they tend to change the function of their land.
The New-Institutionalism perspective is used to analyze government policies related to the protection of agricultural land such as Perpres No. 59 Tahun 2019 about control land conversion. The new-institutional perspective of rational choice of people who act and behave on the basis of the choice of profit and loss in government policy. Rational choice institutionalism is used to explain the motives of landowners in maintaining agricultural land. Undang-Undang No. 41 tahun 2009 as an effort to save food agricultural land for the purposes of Independence, Food Security and Security. The Protection of agricultural land policy is a product of an institutionalization to regulate and protect agricultural land.

In order to realize sustainable agricultural development, land is the main resource in agriculture, especially in fields that still depend on land-based agriculture. Land is a limited natural resource for the number does not increase, but the need for land always increasing from year to year even the availability of land decreases due to the shift in the function of agricultural land to non-agriculture continues to increase.

These problems require the government to maintain food security with regulations and take policies to protect agricultural land. The availability of agricultural land could be maintained to fulfil the needs for the right of food. Therefore, the policy Government policy does not only depend on the structure and function of government, but also factors or actors other outside the government. The availability of land cannot be fully controlled by the government when the availability of agricultural land where agricultural land belongs to individuals. This is a challenge that the longer the area of land tends to remain quantitatively, but the landowners are increasing, even being transferred to non-agricultural functions.

One of the government's efforts to maintain national food security is to protect agricultural land with Perpres No. 59 Tahun 2019 about Controlling Land Use Functions. This policy provides incentives by the government to agricultural land owners with assistance such as assistance in agricultural facilities and infrastructure, irrigation facilities and infrastructure, acceleration of land certification and other forms in accordance with statutory provisions. This incentive-giving policy aims at efforts to protect rice fields as sustainable agricultural land, as well as to overcome the shifting function of agricultural land which has declined.

In fact, the government policy dilemmas through various policies and regulations is actually facing some problems where people are more likely to choose selling their land to housing developers, convert agricultural land to shop houses, or even sell their land and then choose to become traders rather than buying new land. This is due to the rational choice of agricultural landowners who consider it more profitable to sell their land then become entrepreneurs or for the school fees of their children.

Generally, the perspective of New Institutionalism explain that humans are seen as rational individuals who act and behave at the urging of rational interests and choices. Every political action by rational actors is based on the thought and benefit of the land owner. This perspective also looks at the dilemma of government policies in maintaining agricultural land through various laws, but the existing policies have weaknesses where the existing policies are not able to intervene landowners to prohibit selling their land, the existing policies are only on the replacement of incentives, but for Landowner farmers prefer that the incentives provided by the government are not profitable so landowners prefer to sell their land.

The problems faces in the agricultural sector with the increasingly eroded agricultural lands by human economic activity, especially for residential needs. Development is increasing with the ever-increasing number of population growth rates in the period 2018 reaching 265 million people. The data indicates that the need for settlements is also increasing. This causes many agricultural landowners who have to change the function of land to become non-agricultural, but the majority of landowners actually do not invest the results of the sales of land in agriculture. Although the availability of land becomes narrower. The farmers feel poor, so the choice is to change the function of the land or sell their land, this is because economically becoming farmers is considered unprofitable so most landowners choose to sell their land and then choose to become entrepreneurs or other activities outside agriculture.
New institutionalism perspective in rational choice view show incentives for landowners to be unprofitable for farmers. The condition of food availability in a country is influenced by three factors, among others, technology, land and human resources. Technology and land are two things that can still be covered by government policy, therefore human resources are aspects that stand alone apart from government intervention. When the government is deemed unable to prosper farmers, the role is the rational choice of farm determining to change or sell their agricultural land functions to something that is more beneficial for the land owner.

In an effort to maintain food availability in Indonesia, the government has issued various Act policies. In general, government policies related to incentive replacement assistance for landowners, hatcheries, appropriate technology, encouraging trade between regions and several other policies [4]. The policy is an effort to help farmers increase production yields of marketing results, however farmer welfare can improve. However, in reality, the implementation of this policy is not yet effective enough to overcome the problem of food availability.

The rate land conversion is getting more massive. Data from the Badan Pusat Statistik (BPS) shows that from 2017, the area of rice fields is 7.75 hectares and in 2018 has fallen to 7.1 million hectares and 200 thousand hectares of land has been converted per year. Conversion of paddy fields to non-agricultural land reached around 12.7 thousand ha, while the conversion from non-paddy agriculture to non-agricultural land reached around 30 thousand hectares.

One of the factors of land conversion is that farmer occupation is no longer considered economically profitable, sometimes even inherited land is usually divided after its area has decreased. Thus, some of farmer prefer to sell it, on the other hand the land price is sometimes high enough to trigger farmers to choose to sell and invest it into business. The economic motives are the main cause of land conversion. This causes the ability of agricultural production to cover food needs for the population is reduced. Therefore, the government is always faced conditions where there are a number of policy support variables that do not depend on the government but rather actors outside the government. This shows that the success of a government policy is not always determined by the government’s wishes, but also other factors that cannot be controlled by the government.

2.1. Potency and importance of Land Availability

In 2018, Indonesia’s population growth would reach 265 million with this number, in this cases, the population of Indonesia needs land available annually for shelter. This certainly cannot be avoided because it is an important part of the growth and development of society. In fact, the amount of land tends to be stagnant or does not increase, then of course these conditions would provide a threat to the land that has existed so far, including agricultural land.

The people needs land for a wider place to live, but on the other hand the community also needs land that is proportionally able to sustain the agricultural sector in providing food as a source of other basic needs.

Indonesia is one of the agricultural nation, especially in Southeast Asia. Data released by the 2018 ASEAN Statistics Yearbook mentioned Indonesia have 1.32 million kilo meters square (km$^2$) or around 30.2 percent of the total ASEAN agricultural area, which is 4.48 million kilo meters square (km$^2$). In the period of 2017 to 2018 decreased from 7.75 million hectares to 7.1 million hectares according to the BPS. This decrease was due to various factors such as high non-agricultural land requirements such as community housing needs, economic needs such as the education costs of farmer children, business capital and so on, causing higher land conversion.

Factors of conversion to development for residential areas increased causes by easily conversion or function change. The effect on other primary needs which also causes land use change increases as well as the need for education which also causes many people to convert land that was previously used for agriculture into land for settlements and industry.

The land conversion from agricultural land to non-agriculture becomes a problem for the government, especially in maintaining food security in Indonesia, which is very difficult to intervene. Agricultural land is private ownership regulated in a system. Limitations in this case cause the
conversion in an area is very difficult to control especially related to the problem of existing legal rules. More of specific rules related to the conversion owned by individuals cannot be influenced because it is a private sector. The government has issued several laws related to food issues such as Undang-Undang No. 18 Tahun 2012, No. 19 Tahun 2013.

This conversion occurs because many of the land owners become more rational in determining the decisions of the land they own. However, there are many changes that have a big influence especially modernization. Some of the effects of conversion of agricultural land into non-agricultural land due to the increasing primary needs such as the cost of education for the children of farmers and the reducing interest of farmer occupation after completing their education studies.

2.2. Sustainable Food Security Policy and Farmer Rational Options

The efforts of the government for overcoming food security problem in Indonesia are very significant. The government regulations have been designed to address the problem of food security and programs carried out by the people to reduce the problem of food needs. The government still has difficulty in overcoming this problem because there are other factors that are difficult to regulate in overcoming complex problems. The role of farmers in maintaining agricultural land is one of the keys to the process of overcoming food security.

The threat to food security is the conversion of agricultural land. This has implications for the production of agricultural products, the physical environment, and the welfare of farmers whose lives depend on agricultural land. The land conversion is affected by economic matter of farmer, however, most landowners choose to become traders and choose to transfer their land functions. Another thing that causes the change of function is the increasing housing needs and also the process of urbanization than the land is no longer functioning or sold by the owner.

Irawan [5] state that land conversion is basically due to competition in land use between the agricultural and non-agricultural sectors. Whereas competition in land use arises due to three economic and social phenomena, namely 1) limited land resources, 2) population growth and 3) economic growth. The available land is relatively limited, so population growth will increase the scarcity of land that can be allocated for agricultural and non-agricultural activities.

Land conversion increase over the land farming development indicates the potential loss of large food production results and could pose a threat to the food security production. The high rate of conversion of paddy fields can be caused by an increase in population which encourages the increasing need for settlements. In addition, the increasing need for land for non-agricultural activities including industrial activities, trade and others have contributed to the high rate of conversion of paddy fields. The increase in land conversion is due to the absence of incentives for farmers to maintain the fields they manage, so there is no desire from farmers to keep maintaining the paddy fields.

Another factor that also affects the more uncontrolled land conversion is the need for education costs for the children of farmers causing the land to change function. The cost of education in Indonesia, especially universities, is very burdensome to farmers. However, the farmer as rational actor choose to sell their land. This consideration was made due to several factors such as the lack of resources that would continue to manage their land because their children after completing their tertiary education were very rarely returning to cultivating agriculture in the area.

National Food Security is certainly inseparable from the support of local governments which are expected to maximize the role of local governments in realizing national food security. The process of regional autonomy regulated in Undang-Undang Nomor 22 Tahun 2000 about Regional Autonomy which is followed up with Peraturan Pemerintah Nomor 20 Tahun 2000, the role of regions in increasing food security in their regions is increasing. Increased. In line with the implementation of regional autonomy policy. Provincial and Regency / City Governments can play an active role. However, the government's faced its own challenges is because the government is not able to control rational choice of the farmer thus, land conversion appears from year to year. This becomes a dilemma in maintaining food security national.
3. Conclusion
Food security is a mandate of the law to fill the food needs of every individual human right and its fulfils becomes moral obligation. The government have to take a serious act in realizing sustainable food security due to the threat of the food crisis.

The government has made various policies related to the prevention of land conversion as well as efforts to improve the standard of living of farmers and incentives for landowners in the form of assistance for agricultural facilities and infrastructure, irrigation facilities and infrastructure, acceleration of land certification and other forms in accordance with statutory provisions. However, being a farmer tends not to be a favoured occupation for the young generation, because being a farmer is considered not prosperous and prestigious profession. Thus, farm land owner prefers to sell its land, this is due to the rational choice of the people which considers the profession of farmers to be unprofitable. Decreasing the amount of land that occurs every year in Indonesia would have a negative impact on the fulfilsments of food security in Indonesia.

The threat of changing the function of paddy fields that cannot be controlled properly and threaten national food security. The problems become a dilemma for the government on the other side of the obligation to maintain food security but the government is unable to control the use of land owned by the people.

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