Sustainable food agriculture land protection policy for Gunungkidul, Yogyakarta, Indonesia: solution or dilemma?

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Abstract. Climate change has an impact on the environment, especially in agriculture. Climate change which caused the emergence of extreme weather led to declining agricultural productivity or crop failures in several regions. Some areas of Gunungkidul are the most difficult areas to plant rice compared to other regencies/cities in the Special Region of Yogyakarta. The issue of agricultural land conversion is a problem for almost all countries in the world that are difficult to resolve as development increases. Different policies are implemented to minimize the adverse effects of the conversion of agricultural land in various regions of the world. One of the policies that applied in Indonesia is the policy of Sustainable Food Agriculture Land Protection or Perlindungan Lahan Pertanian Pangan Berkelanjutan (PLP2B policy). Until now, this policy was slowing the movement in Indonesia, including in Gunungkidul. This article aims to analyze the performance and dilemma of this policy in Gunungkidul. Qualitative research with case study approach had been done and data was collected through documentation or literature study, observation, in-depth interviews and Forum Group Discussion. The results showed that PLP2B policy has not been optimally implemented and still become a dilemma to local government rather than become a solution.

1. Introduction
The issue of land conversion is one of the most important issues in the discussion of global climate change and sustainability in various regions of the world. Increasing land function changes, in both urban and rural areas, are the restructuring process as the impact of rapid development. This condition ultimately drives the transformation of land resources from agriculture to non-agriculture [1]. These conditions can threaten the guarantee of local food availability. Decision-makers up to now need empirical evidence and new theories related to how to control land function change [2].

Changing rural into urban areas until the political changes that affected changes in regions in Eastern and Central Europe so that it affected agricultural policies in the country [3]. Financial loans or accessibility of development funds through loans are most instrumental in leading land function change and land degradation in the USA [4]. The impact of industrialization and the need for larger housing land, as well as farmers who prefer plantation commodities such as vegetables are the main causes in China [5]. High population growth, increased industrialization, and land fragmentation [6],
one of the triggers of which is the application of inheritance law physical forms in Indonesia are the main cause of land changes [7]. According to Niroula and Thapa [8], land fragmentation is a critical barrier to increase productivity because it does not meet the economic scale. This condition eventually encouraged farmers to sell their land or switch to non-agricultural businesses.

Policies to control land function change are needed to reduce the adverse impacts that may occur. Irawan [9] mentions that the construction of residential or industrial areas in a location will open access to the place that can open business opportunities. The United Nations Environment Program [10] also reports that 80% of urban development is conducted on agricultural land. Without a policy, settlement and infrastructure interventions will increase from 260 to 420 million hectares in 2050 or cover 4-5% of the land area in the world, but if there is a strong policy, the increase can be reduced to only 90 million ha or an increase of around 3% only.

This research conducted in Gunungkidul is interesting and important. First, Gunungkidul is the area with the most potential to have good performance in implementing PLP2B policies because the attractiveness of its land investment is less than other districts. Second, other districts do not have Sustainable Food Agricultural Land Protection or Perlindungan Lahan Pertanian Pangan Berkelanjutan (PLP2B) regulations, other regencies until now still in draft form. Third, from the benefits, Gunungkidul should have a well-performing policy. Fourth, research related to land function policy from a policy implementation perspective is still very rare (see [4,15] and more often associated with the level of productivity of agricultural products (see [16]), while the association with failure or success of policy implementation even the performance of the policy itself is still very rare. Theories related to policy performance to assess the success or failure of a policy are still in the stage of development and discussion [17], so it needs a contribution to empirical research. There is an urgency in conducting research to evaluate PLP2B policy. This research is aimed to analyze (1) the performance of PLP2B policy implementation as the controller of the conversion of agricultural land in Gunungkidul and (2) the dilemma in this policy.

2. Research methods

This type of research was qualitative research with a single instrumental case study approach. More precisely as the case study regarding the performance of PLP2B policy implementation in Gunungkidul. This research was a form of research aimed at describing findings, whether they occur naturally or because of the intervention of the actors. Data was collected through documentation or literature study, observation, in-depth interviews and Forum Group Discussion. Findings strengthened using qualitative data could deepen the analysis and information presented. The flow of this research used the stages of the interactive model proposed by Miles and Huberman.

3. Results and discussion

3.1 Policy process: performance of PLP2B policy implementation in Gunungkidul

The policy has not run optimally because there is no definite planning and determination regarding PLP2B policies. On the other hand, planning and stipulation have not been able to work well either because a number of detailed rules such as incentives have also not been explained and defined. Before 2017, the activity had gone quite well (about 80% from target) and was just waiting for the decision from the stakeholders regarding policy incentives so that the policy could run fully. But after instructions for change, this policy was like a wild ball that continued to turn back to the beginning, such as planning and determination activities (become about 50% from target).

According to the previous summary, it can be seen that the performance of policy implementation in terms of processes has not worked optimally. There are several obstacles that cause each activity to be unable to run. Beside the fact, PLP2B policy planning has not been conducted, there are several main factors that are still become a problem. Hite and Dilman [11] state that there is a need for a policy to control the rate of land conversion for various reasons. First, to ensure adequate food and
fiber production to meet the requirements of the growth of national and world populations (see [12]). Second, there are beneficial spill effects (environmental facilities) associated with green open space (see [11]). Third, to ensure more organized urban development with efficient land function (see [13]). Fourth, to protect agricultural land on the basis of local economic benefits derived from a viable agricultural industry [14]. The policies used by various countries to date, including use-value taxation, simple purchase costs, and purchase of development rights. Policies are carried out in a voluntary manner, providing economic incentives, or coercive involving regulations [14].

Table 1. Summary of the process performance of PLP2B policy activities in Gunungkidul

| No. | Activities                               | Implementation |
|-----|------------------------------------------|----------------|
| 1.  | Planning and Determination                | √              |
| 2.  | Development                               | √              |
| 3.  | Research                                 | √              |
| 4.  | Utilization                              | √              |
| 5.  | Coaching                                 | √              |
| 6.  | Control                                  | √              |
| 7.  | Supervision                              | √              |
| 8.  | Information Systems                       | √              |
| 9.  | Protection and empowerment of farmers     | √              |

3.2 Epilogue: transfer of PLP2B land and policy functions is a solution or new dilemma?

The PLP2B policy, such as a wild ball that rolls away and is difficult to stop or give a result. This policy must be implemented appropriately so that it can truly be a solution in controlling the conversion of agricultural land in Gunungkidul. To find out the accuracy, it is necessary to understand the main problems as the inheritance of agricultural land problems that must be solved, the policy dilemma, and the superiority of the policy. A review based on some literature was conducted to understand this policy.

3.2.1 The crisis of agricultural land ownership for farmers. The Crisis of Agricultural Land Ownership for Farmers is basically not only aimed at food security. But also the crisis of ownership of agricultural land for farmers that certainly also very closely related to the welfare of farmers, especially sharecroppers. Land ownership for farmers in Indonesia is a problem inherited from the colonial era. There were cases of many farmers without land ownership. This problem was then given a solution with the stipulation of Law No. 56 Prp Year 1960 concerning Application of Agricultural Land Area better known as Land Reform Law. There are two main things that are regulated, the land redistribution program from landowners that exceeds the maximum extent of ownership of agricultural land and the prohibition of absentee land. Unfortunately, that must fail miserably because of the strong political position of landowners with exceeding the limit and absentee in large political parties that control the majority vote in parliament [18].

The phenomenon of land function change exacerbates the conditions of sharecroppers. Gunungkidul was once famous for its mertelu profit sharing system (2/3 of the crop yields are for smallholders and 1/3 part of the harvest for landowners). The proportion is due to agricultural land in Gunungkidul including land that is difficult to process so that farmers work harder in cultivation than other regions. The conversion of agricultural land which suppresses the amount of agricultural land causes competition for the cultivating farmers to get higher land. Now, the revenue sharing system for sharecroppers is getting smaller. Landowners are still interested in obtaining facilities to legalize the ownership of agricultural land especially for the land that far from the main road. But, there are even farmers who sell part of their land to certify land, even though they get help from the policy of Prona.
3.2.2 Enforcement of PLP2B policy: controlling solutions for transferring agricultural land functions or deprivation of economic rights?. The PLP2B policy was born to ensure the emphasis on the conversion of agricultural land as well as the solution to the ownership of agricultural land for the welfare of farmers. However, not a few people consider the PLP2B policy to deprive certain groups of economic rights so that there has not been much community participation that has signed the P2B land designation agreement, which is only 1,901 Ha from the initial target of 5,505 Ha (now 29,020.86 Ha). The economic rights in question are freedom to buy, freedom to have something, and freedom to conduct transactions related to agricultural land that has been determined to be LP2B.

World Bank and the International Monetary Fund (IMF) encourage the liberalization of land trade in Indonesia [18]. That means that land can be traded freely such as buying and selling in general as stated in economic rights. Until now, both institutions still show their support through support for the Jokowi-JK development program, namely the Jokowi National Strategic Project. Where in the development process, much of the land is acquired including the productive wetland. If this condition is allowed, the beneficiaries are only the capitalists and the farmers who lose their sources of livelihood. There are inconsistencies in the PLP2B regulation too that push the farmer to give their land, which is PP No. 1/2011 also appeared in the name of development and mutual interests. The transfer of functions of the Sustainable Food Agriculture Land can only be conducted by the Government or regional government in the framework of land acquisition for public interest and/or disaster.

3.2.3 The advantages of PLP2B policy compared to similar policies. The PLP2B policy is not the only policy aimed at controlling land conversion. There are several policies in previous years about the protection of agricultural land in Indonesia. From these policies, it is necessary to understand the basic knowledge of policies in order to be able to find out the advantages of PLP2B policies compared to the policies currently in force.

3.2.3.1 Land reform policy. This policy is the oldest policy. The legal basis of this policy is Law No. 56 Prp Year 1960 concerning Determination of Agricultural Land Area. It regulates the protection of agricultural land for farmers to guarantee the availability of 2 hectares for each farmer. It also contains a ban on absentee land or land used for speculation that may lead to abandoned land. However, in fact, this law cannot work properly and there are still many infractions. This policy only regulates prohibitions and there are no rules related to incentives for parties who are willing not to convert the land.

3.2.3.2 Land stewardship policy. Policies regarding land stewardship must also pay attention to space stewardship. The legal basis for land stewardship is the Government Regulation of the Republic of Indonesia Number 16/2004 concerning Land Stewardship. While the legal basis for stewardship of space is regulated in PP No. 13/2017 concerning Amendments to Government Regulation Number 26/2008 concerning National Regional Spatial Planning; DIY Regional Regulation No. 2/2010 concerning the Spatial Planning of the Special Region of Yogyakarta in 2009-2029; Regional Regulation of Gunungkidul No. 6/2011 concerning the Gunungkidul Spatial Plan for 2010-2030. This policy also only regulates the prohibition and does not regulate policy incentives for those who are willing not to convert the land.

3.2.3.3 Policy for permit to change land function (IPPT). This policy controls the conversion of land by restraining permissions. The legal basis used in Gunungkidul is Gunungkidul Regent regulation No. 130/2017 concerning Permit for Utilization of Space. The executor of this policy is the DMPPT GK. DMPPT GK plays a role in approving or rejecting the conversion of agricultural land, which are moorings to yards and paddy fields to yards proposed through IPPT. In this policy, the DPK GK and BPN GK also play the role. DPTR has the authority to provide spatial recommendations, permissions and BPN GK has the authority to provide land technical considerations from the land office for the
IPPT. The policy regulates the licensing of conversion of agricultural land but does not regulate incentives for those who are willing not to convert the land.

3.2.3.4 Agricultural land pre-certification policy. This policy is the youngest policy because it was implemented in 2017 but its initiation has been conducted since 2004 prior to the PLP2B policy. The legal basis of this policy is the Joint Decree of the Minister of Agriculture and Head of the National Land Agency No. 515/Kpts/HK.0060/9/2004 and No. 2/SKB/BPN/2004 concerning Implementation of Land Certification Program in the Framework of Empowering Farmers to Support National Development. A similar program is PTSL and even longer is Prona. These two programs are based on the law in the Basic Agrarian Law, which is Law No. 5/1960 which regulates property rights, business rights, usufructuary rights, leasing rights, land rights, rights to collect forest products, and other rights or in other words global targets are not only agricultural land. In this policy, there are incentives but are limited to farmers who own land and not yet to smallholders who do not have land and only one type of incentive.

3.2.3.5 Sustainable agriculture food protection policy (PLP2B). This policy is used as the basis for controlling the conversion of agricultural land. The legal basis for PLP2B policy is Law No. 41/2009, DIY Regional Regulation No. 10/2011, and Regional Regulation of Gunungkidul No. 23/2012. The legislation is the most complete compared to other rules. In it regulation of the land conversion prohibition, PLP2B activities arrive at incentives for both landowners and sharecroppers. This policy also has several derivative regulations and other explanations below which then strengthens the legal basis of this policy. At least until now there are 4 derivative rules such as PP No. 1/2011, PP No. 12/2012, PP No. 25/2012, and PP No. 30/2012. According to this statement, PLP2B can be said to have a very strong legal force and regulation of prohibitions and incentives for those who are willing not to convert land and cultivate farmers.

4. Conclusion
The PLP2B policy implementation performance is not running optimally. Policy implementation performance has not been optimal for all activities. Stagnation in planning and implementation activities also influences implementation performance in other activities. In terms of output before 2017, Gunungkidul almost reached the land target and was set. However, the new rules, after 2017, have caused the policy to be repeated from the beginning and the area has changed very far. Until now, PLP2B policy still becomes a dilemma to local government rather than become a solution. The suggestions are to accelerate the clarity of guarantees and incentives through regulations that have legal force, making manuals related to the policy, promoting socialization or euphoria, suppressing the geseosctoral of each - individual stakeholders, and improve the land management system. If the government is not conducting it, this policy will be stuck in a dilemma.

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