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Feasibility Study of HPP Plus 20% Incentive Policy Strategy in Supporting Food Sovereignty and Building a Proud Farmer Mindset in Badung Regency

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Abstract
This study analyzes the feasibility of implementing the Government Purchase Price (HPP) plus 20% incentive policy in Badung Regency to support food security and improve farmers' welfare. This study uses a triangulation method involving surveys of farmers, in-depth interviews with officials and experts, and secondary data analysis to understand the impact of incentive policies on income stability and local food production. The results show that this incentive has the potential to increase farmers' income by up to 18%, provide a more stable price guarantee, and encourage the interest of the younger generation to be involved in the agricultural sector. However, the main challenges in implementing this policy include funding sustainability, supervision effectiveness, and coordination between agencies. Based on these findings, this article provides recommendations for policy strengthening, including diversification of funding sources, application of technology in the surveillance system, and increased socialization among farmers. This research is expected to be the basis for local governments to design more effective and sustainable incentive policies to strengthen the agricultural sector and food security in areas that depend on the tourism sector, such as Badung Regency.

Keywords: Incentive Policy, HPP Plus 20%, Food Security, Farmer Welfare

1. Introduction

1.1. Background

The agricultural sector in Badung Regency has experienced a decline in its contribution to the Gross Regional Domestic Product (GDP) over the past five years. Based on data obtained from the Central Statistics Agency of Badung Regency (2023), the contribution of the agricultural sector shows a significant downward trend, especially after the COVID-19 pandemic. In 2021, this sector still contributed 8.51%, but this figure decreased to 7.16% in 2022, and continued to 6.08% in 2023. This decline is inversely proportional to the tourism sector which continues to dominate the regional economy. This phenomenon indicates a shift in labor interest from the agricultural sector to the tourism sector, coupled with the increasing conversion of agricultural land for the purpose of building tourism facilities (Badung Regency Central Statistics Agency, 2023).

This condition poses a big challenge for Badung Regency in maintaining local food security. As an area that has a high dependence on tourism, food security is a crucial factor to ensure food availability in conditions of economic crises that can occur at any time. Efforts to increase the attractiveness and productivity of the agricultural sector are very urgent. One of the strategies that is considered potential is through the provision of financial incentives in the form of the Government Purchase Price (HPP) plus 20%, which provides price certainty for farmers. With this incentive, the government is committed to buying agricultural products at a price that is 20% higher than the market price, so that farmers have a more stable income guarantee. This policy is expected to reduce farmers' dependence on market price fluctuations and create more favorable conditions for them to remain focused on increasing productivity (Arnawa, 2024).

The implementation of the HPP plus 20% incentive strategy is also expected to encourage the "Badung Bersovereign Food" program, a government initiative aimed at strengthening food independence at the local level. In addition to the aspect of food security, this program seeks to build pride in the farming profession. The low interest of the younger generation to work in the agricultural sector is one of the serious challenges, especially in maintaining the sustainability of this sector. With incentive policies that support farmers' income and economic stability, it is hoped that there will be a change in mindset, so that the younger generation is more interested in entering the agricultural sector. This is also in line with the idea of Bayu Putra (2024) who stated that policies that provide real support for farmers will not only increase productivity but can also be an effort to revitalize the agricultural sector in synergy with the preservation of the environment and local culture.

Therefore, providing HPP plus 20% incentives is an important strategy that needs to be studied in depth. This policy not only focuses on improving the welfare of farmers, but also on strengthening the agricultural sector as a sustainable economic pillar in the midst of challenges and dependence on the tourism sector (Mubyarto, 2000).

1.2. Research Question

The decline in the agricultural sector's contribution to Badung Regency's Gross Regional Domestic Product (GDP) over the past few years shows the need for effective strategic interventions to restore this sector's attractiveness. In this context, one of the proposed strategies is to provide incentives in the form of Government Purchase Prices (HPP) plus 20%. However, an in-depth analysis of this incentive strategy's feasibility is required before implementation.

Therefore, the first question asked in this study is: *What is the feasibility of the strategy of providing HPP plus 20% incentives?* This question requires a comprehensive study of the financial, economic, and sustainability aspects of the policy, as well as the relevance of this strategy in the context of the local market. This analysis will also include projections of the impact of policies on price stability at the farmer level and their effectiveness in achieving food security goals in Badung Regency.

The second question that focuses on is: *What is the impact of these incentives on the welfare of farmers and food production?* The purpose of the HPP plus 20% strategy is to provide farmers with a guarantee of higher prices than the market, so that it is expected to be able to increase their income and provide economic incentives to continue developing agricultural activities. As such, it is important to assess the impact of these incentives on the economic conditions of farmers as well as their contribution to overall food production. The analysis also includes a review of whether the increase in income will have an impact on the long-term well-being of farmers and whether these incentives can encourage increased productivity, both in terms of quantity and quality of agricultural products. The impact on food supply chains in the region must also be taken into account, especially in relation to how this policy can support food security and reduce dependence on extra-regional supplies.

The third question that needs to be answered is: *What are the challenges in implementing the strategy?* The implementation of the strategy of providing HPP plus 20% incentives certainly faces a number of challenges. The first challenge may arise from the aspects of funding and program sustainability, given the need for sufficient budget allocation to sustain this policy in the long term. In addition, administrative and regulatory challenges can

also hinder smooth implementation, including in terms of fund distribution, supervision, and stable pricing in the local market. Another challenge is the potential for resistance from farmers who are accustomed to traditional trading patterns, as well as the technical challenge of determining an accurate and relevant COGS to market dynamics. These factors require special attention in policy formulation in order to create an ecosystem that is conducive to the development of the agricultural sector.

1.3. Research Urgency

This research is very important in the context of Badung Regency, where the high dependence on the tourism sector makes the economy vulnerable to global economic fluctuations and natural disasters. Experience during the COVID-19 pandemic has shown how tourism, as a key sector, can experience a sharp contraction that has an impact on the economy and people's well-being. In this situation, the agricultural sector plays a role as a support for the local economy that is able to provide food needs, maintain social stability, and become an alternative source of income for the community (Mubyarto, 2000). Local food security, supported by a strong agricultural sector, is crucial in an effort to reduce this vulnerability. By ensuring sufficient and stable food availability, Badung Regency can be more resilient in facing future economic crises.

Furthermore, the provision of incentives in the form of Government Purchase Price (HPP) plus 20% can be a strategic step to maintain a competitive and attractive agricultural sector for the community, especially the younger generation. In the midst of the rate of urbanization and land conversion for tourism, interest in working in the agricultural sector tends to decrease, which has an impact on the availability of labor in this sector. Therefore, this research is urgent to be carried out in order to evaluate whether the incentives offered are effective enough in improving the welfare of farmers and reviving public interest in entering the agricultural sector. This incentive approach is also relevant to Badung Regency's vision of achieving food independence and reducing dependence on supplies from outside the region.

In addition, this study is expected to provide evidence-based recommendations regarding the implementation of the HPP plus 20% incentive policy, including its challenges and opportunities. Thus, the results of this study can be a reference for local governments in formulating more targeted policies to support the sustainable growth of the agricultural sector. Without the right policy intervention, the agricultural sector in Badung has the potential to be further left behind, which not only affects food security but also the economic and socio-cultural sustainability of the area.

1.4. Purpose and Benefits

This study aims to provide a comprehensive assessment of the feasibility of the Government Purchase Price (HPP) plus 20% incentive strategy for farmers in Badung Regency. This step is important to answer the need for policies that can provide income protection and stability for farmers in the face of fluctuations in market prices. This assessment will cover a wide range of aspects, from direct economic impacts to long-term policy implications. More specifically, this study has the following objectives:

1. Assessing the Effectiveness of Incentives in Supporting Farmers' Income and Welfare: The HPP plus 20% incentive is expected to be able to provide farmers with a guarantee of higher prices than the market, thereby reducing the risk of losses due to falling agricultural commodity prices during abundant harvests. This study will evaluate the extent to which these policies can significantly increase farmers' incomes and their impact on their quality of life. With this incentive, it is hoped that farmers will have income certainty that encourages them to continue to develop their farming business. This evaluation will use both quantitative and qualitative analysis methods to measure changes in farmers' incomes and how these policies affect their economic and social well-being.
2. Providing Practical Policy Recommendations to Support the Sustainability of the Local Agricultural Sector: Based on the results of the research, practical policy recommendations for local governments will be prepared to support the sustainable growth of the agricultural sector. This recommendation will include a strategy for implementing the HPP plus 20% incentive, a monitoring mechanism, and the possibility of developing a long-

term program to maintain the attractiveness of the agricultural sector in Badung Regency. This recommendation is expected to provide concrete direction in policy formation, including aspects of funding, regulation, and coordination between agencies needed so that this policy can run effectively and efficiently (Raka Suardana, 2024).

In addition, this study is also intended to provide guidance on policy implementation that is able to strengthen the position of local farmers in an increasingly competitive market. Currently, the agricultural sector in Badung Regency is faced with competition with the more dominant tourism sector, so the role of the government in providing protection and support for farmers is very important. With this guide, it is hoped that farmers can maintain and increase their productivity without having to be affected by market volatility that is often detrimental. The benefits of this research include direct and long-term contributions to the development of the agricultural sector in Badung Regency:

1. Economic Benefits: This research is expected to be the foundation for more effective policy-making in increasing farmers' incomes and the competitiveness of the agricultural sector. With the right incentive policies, the agricultural sector can become a more stable economic pillar, help reduce poverty rates among farmers, and increase local economic independence.
2. Social Benefits: In addition to economic benefits, this research is also expected to provide social benefits in the form of improving farmers' welfare, encouraging the pride in the farming profession, and attracting the younger generation to be involved in the agricultural sector. With the increase in welfare, farmers are expected to have a better quality of life, and can play a greater role in local social and economic development.
3. Policy Benefits: The results of this study can serve as a reference for policymakers in designing more sustainable and adaptive agricultural programs and policies for local needs. The resulting guidance can also be adopted by other local governments as a model of incentive policies that support food security and the welfare of farmers in their regions.

Overall, this research is expected to not only provide short-term solutions, but also a sustainable impact on the development of a resilient and competitive agricultural sector in Badung Regency.

1.5. Research Gaps and Novelty

This study offers a new contribution using a triangulation approach, which is a combination of primary and secondary data obtained from in-depth interviews with farmers, policy experts, and analysis of policy documents and relevant statistical data. This approach allows researchers to obtain a more holistic view of the Government Purchase Price (HPP)-based incentive strategy of plus 20% in the context of Badung Regency which has unique economic characteristics and is highly dependent on the tourism sector (Bayu Putra, 2024). The triangulation approach helps to increase the validity and reliability of research findings because the data is verified from various sources, resulting in a more comprehensive and in-depth analysis (Creswell & Clark, 2017).

Most studies on agricultural incentive policies in Indonesia tend to focus on aspects of price subsidies or direct cash assistance without taking into account the needs of regions with high dependence on non-agricultural sectors, such as tourism. Existing research often sees incentives as a purely economic instrument, aimed at increasing agricultural productivity and farmers' incomes, but pays little attention to the social aspects and long-term impacts of such policies. For example, research by Mubyarto (2000) only focuses on the economic impact of agricultural subsidy policies without considering the social impact and changes in people's mindsets towards the agricultural sector. In the context of Badung Regency, which is experiencing pressure to transfer land use for tourism purposes, a more comprehensive approach is needed to examine how incentive policies such as HPP plus 20% can serve as an instrument to increase the attractiveness of the agricultural sector, as well as maintain the area of agricultural land (Arnawa, 2024).

This research contributes to filling the *research gap* in the agricultural incentive policy literature by researching HPP-based incentives which are relatively rarely researched in the context of regions that focus on tourism. For example, Arnawa (2024) stated that HPP-based incentives can help maintain price stability and reduce the risk of losses for farmers due to market price fluctuations. However, there have not been many studies that examine the

implementation of this policy in the context of tourist areas such as Badung Regency, where dependence on tourism can have an impact on the conversion of agricultural land and reduce the interest of the younger generation to work as farmers. Thus, this study presents *a novelty* by exploring the effectiveness of the HPP plus 20% incentive in improving farmers' welfare, strengthening food security, and attracting the younger generation to play an active role in the agricultural sector.

In addition, this study also introduces a new perspective related to how incentive policies can play a role in maintaining economic balance in regions with high pressure on land conversion. In the context of the economy of tourist areas, the agricultural sector often experiences a decline in attractiveness due to lower yield ratios compared to the tourism sector (Central Statistics Agency of Badung Regency, 2023). Therefore, this study aims not only to evaluate the feasibility of the 20% plus HPP incentive, but also to understand how these incentives can help maintain farmland and create a more sustainable agricultural ecosystem (Fischer & Schrattenholzer, 2001).

By providing empirical data related to the effectiveness of these incentives, this study is expected to be a reference for policymakers in designing agricultural policies that are more in line with regional characteristics. In this case, this study not only focuses on the technical aspects of policy implementation, but also considers the long-term impact on food security, farmer welfare, and agricultural land sustainability amid the pressure of the tourism industry. As a scientific contribution, this study can fill the literature gap related to effective agricultural incentive policies in regions with high dependence on the tourism sector, which has received little attention in agricultural policy studies in Indonesia.

2. Literature Review

2.1. Theoretical Studies

2.1.1. Economic Incentive Theory

The theory of economic incentives states that incentives, both in financial and non-financial forms, can increase the motivation of individuals to participate in certain economic activities and increase their productivity (Samuelson & Nordhaus, 2010). Incentives act as an incentive or attraction for individuals or groups to act in accordance with specific expectations or goals, such as improving productivity or quality of results. In the context of the agricultural sector, incentives in the form of Government Purchase Prices (HPP) plus 20% are a strategy that aims to provide additional motivation for farmers to be more active in producing agricultural products with high quality and adequate quantity, without worrying too much about losses due to market price fluctuations. The provision of this incentive is also expected to be able to create economic stability for farmers who depend on crops as their main source of income (Mankiw, 2014).

2.2.2. Food Sovereignty Theory

The theory of food sovereignty focuses on food independence, namely the ability of a region or country to meet the food needs of its population independently without being overly dependent on imports (Patel, 2009). The principle of food sovereignty not only focuses on food availability, but also emphasizes the importance of sustainable policies that support local farmers so that they can meet their food needs with locally available resources (Rosset, 2006). In this context, the provision of financial incentives to local farmers, such as the HPP plus 20% incentive, is a policy instrument that supports the achievement of food sovereignty in Badung Regency. This policy serves as an effort to ensure price and income stability for farmers, so that they can continue to produce food without being affected by market uncertainty. Thus, this program plays an important role in maintaining long-term food security, which is in line with the vision of "Food Sovereign Badung."

2.2. Concept Study

In this concept study, the HPP plus 20% incentive strategy was identified as a policy instrument that can support food security and improve the economic conditions of local farmers. These incentives combine the basic concepts

of economic incentive theory and food sovereignty. The implementation of HPP plus 20% is a form of direct government support for farmers, which not only increases their income but also provides a more stable price guarantee. This concept is sustainable and is designed to address the uncertainty faced by farmers in managing their crops, especially when market prices decline below the cost of production (Arnawa, 2024).

2.3. Previous Research Review

Previous studies have shown that providing financial incentives has proven to be effective in encouraging people's interest in entering the agricultural sector and increasing agricultural production. Research by Pagiola et al. (2007) shows that direct subsidies or incentives to farmers can improve the economic conditions of smallholders and increase their production yields. However, this study also underlines the challenges faced, especially in terms of suboptimal distribution and market access. This can hinder farmers from selling their crops, ultimately affecting the effectiveness of incentives.

In addition, research by Fischer and Schrattenholzer (2001) highlights the importance of government support in building a good distribution infrastructure to facilitate market access. Adequate distribution infrastructure allows farmers to sell their crops more easily, so the incentives provided really have a positive impact on farmers' welfare. Another study by the Central Statistics Agency (2023) in Badung Regency also shows that one of the factors affecting farmers' interest is access to a stable market, which can be supported through incentive policies and higher price guarantees.

This study also identifies gaps in the literature related to the effectiveness of HPP incentive policies in regional contexts that are highly dependent on non-agricultural sectors, such as tourism. Badung Regency is a relevant example, where the dependence on tourism makes the agricultural sector less in demand and vulnerable to economic pressure. Therefore, this study aims to enrich the literature by evaluating how this specific incentive policy can encourage the sustainability of the agricultural sector in tourist areas (Bayu Putra, 2024).

3. Research Methods

3.1. Research Design

This study uses *a mixed methods* approach, which is a combination of qualitative and quantitative approaches implemented with the triangulation method. This approach was chosen to obtain a more comprehensive picture of the perceptions and expectations of various stakeholders towards the HPP plus 20% incentive policy in Badung Regency. This triangulation approach aims to reduce bias and increase the validity of findings by utilizing a variety of data sources and complementary analysis methods (Creswell & Clark, 2017). The focus of this research is to identify the expectations and perceptions of farmers, policy makers, and experts in the agricultural sector regarding the implementation of the policy, as well as to simulate policy impact projections by utilizing historical data on the agricultural sector and local economic trends.

3.2. Location and Object of Research

The research was carried out in an agropolitan area in Badung Regency, which is an area with significant agricultural potential and has experienced a direct impact from land conversion due to tourism development. The selection of this location is based on the relevance of food security issues and regional economic dependence on the volatile tourism sector. The object of this research includes farmers' perceptions of incentives, expectations of the government and related experts, as well as projected impacts of incentives on farmers' productivity and income in the region (Central Statistics Agency of Badung Regency, 2023).

3.3. Population and Sample

The population in this study includes all farmers in Badung Regency who have the potential to receive incentives, experts and policy experts who have a deep understanding of the agricultural sector, as well as relevant government

officials involved in agricultural policy decision-making. In an effort to obtain relevant and in-depth data, sample withdrawal is carried out using *the purposive sampling method*, which is to select informants who are considered to have specific knowledge and direct involvement with the research topic. The research sample consisted of 50 active farmers representing various agricultural commodities in Badung Regency, 10 experts in the field of agriculture and local policy makers who understand the intricacies of agricultural sector policies, and 5 government officials from related agencies who have an important role in the implementation of agricultural policies. The selection of this sample is expected to provide a comprehensive view regarding the effectiveness and implementation of the HPP plus 20% incentive policy in Badung Regency.

3.4. Data Collection Methods

The data collection method in this study involves various techniques to obtain in-depth and comprehensive information related to the HPP plus 20% incentive policy in Badung Regency. First, questionnaires and expectations surveys are distributed to farmers to measure their expectations and views on the incentive policy, as well as its impact on their well-being. This survey uses a Likert scale of 1-5, where scale 1 indicates full disapproval and scale 5 indicates full agreement, to measure perception and level of support for the policy (Bryman, 2016). Through this survey, researchers hope to identify the extent to which incentive policies can motivate farmers to increase productivity and maintain the sustainability of their farming businesses.

Second, in-depth interviews were conducted with experts and relevant government officials to gain insights into their readiness and challenges that may arise in the implementation of this policy. This interview highlights the various challenges faced in the policy formulation process, as well as the prediction of their impact on the agricultural sector. Semi-structured interviews were chosen to provide flexibility to respondents in conveying their views in detail and depth, so that they could provide rich and in-depth information (Patton, 2015).

Third, secondary data analysis was used to obtain additional information, including data on the Gross Regional Domestic Product (GDP) of the agricultural sector and food production trends in Badung Regency over the past five years. This data provides an overview of the contribution of the agricultural sector to the regional economy, as well as trends relevant to the implementation of incentive policies. In comparison, similar policies in other regions are also analyzed to see their effectiveness and relevance in the local context of Badung Regency (Mubyarto, 2000).

Finally, a projection simulation was carried out using a scenario analysis model that utilized historical data from the agricultural sector and previous market prices. This simulation is designed to predict how the HPP plus 20% incentive policy will affect farmers' productivity and welfare, taking into account variables such as market prices, production costs, and local economic fluctuations (Fischer & Schrattenholzer, 2001). Through this approach, the research is expected to be able to provide more accurate projections of policy impacts on farmers' welfare and regional food security.

3.5. Research Instruments

This study uses several instruments to ensure that the data obtained is relevant and in-depth in supporting the analysis of the HPP plus 20% incentive policy. First, the expectations questionnaire is specifically designed to measure farmers' expectations and perceptions of these incentives, including questions related to the potential impact of the policy on the income and stability of their farming businesses. This questionnaire provides an initial overview of the extent to which farmers feel the policy will affect their overall economic well-being.

Second, the interview guide is prepared as an instrument to explore insights from experts and relevant government officials regarding the readiness of policy implementation and the various challenges faced in the process. This interview guide includes questions that allow respondents to provide an in-depth view of the opportunities and obstacles of incentive policies from a policy and operational perspective.

Third, the document analysis template is used to evaluate existing policies and analyze trends in the agricultural sector in Badung Regency. This instrument helps in compiling projections using historical data as a reference, thus supporting the assessment of the relevance and effectiveness of incentive policies in local contexts.

Finally, simulations are carried out with the help of software such as Excel or R to calculate the projected economic impact of these incentive policies. The simulation is designed to predict how the 20% plus HPP incentive policy may affect farmers' welfare, taking into account relevant economic variables such as market prices, production costs, and local economic fluctuations (Alkire & Foster, 2011). Through these instruments, research can measure the impact of policies more accurately and in depth.

3.6. Data Analysis Techniques

This study uses several data analysis techniques to obtain a comprehensive understanding of the effectiveness of the HPP plus 20% incentive policy. First, quantitative analysis was applied to the survey data by using descriptive statistics to identify patterns of farmers' expectations and perceptions towards incentive policies. The results of this quantitative analysis are visualized in the form of graphs and tables to facilitate data interpretation, thus providing a clear picture of farmers' support for the policy (Field, 2013).

Second, qualitative data from interviews and documents are analyzed using *content analysis* techniques, which allows researchers to extract key themes from interviews and policy documents. This method is useful for identifying relevant patterns, concepts, and meanings from qualitative data, which provides deeper insights into stakeholder perceptions and views on policy implementation (Patton, 2015).

Third, impact simulations and projections are carried out based on historical data from the agricultural sector to predict changes in productivity and farmers' incomes that may occur as a result of the HPP plus 20% incentive policy. The analysis of these scenarios helps in anticipating the various possible economic impacts that can arise from the policy, providing a basis for understanding the long-term implications of the implementation of this policy (Pagiola et al., 2007).

Finally, the data triangulation technique is applied by comparing the results of surveys, interviews, and document analysis to ensure consistency and validity of the findings. The use of triangulation serves to improve the accuracy of research results by minimizing potential bias and strengthening the validity of findings, thus providing more reliable and in-depth results (Creswell & Clark, 2017).

3.7. Tools and Software Used

This research utilizes various tools and software to support comprehensive data analysis. Microsoft Excel or Google Sheets are used as the primary tools for survey data processing as well as projection, allowing researchers to organize, manage, and visualize survey data efficiently. For the analysis of interview data, NVivo software is used, mainly in the process of *coding* and identifying key themes. NVivo makes it easier for researchers to extract qualitative information from interviews and identify relevant patterns or concepts related to the implementation of incentive policies. In addition, SPSS or R is also used to conduct descriptive statistical analysis and projection simulations to measure the economic impact of the HPP plus 20% policy. The use of SPSS or R helps in ensuring that the results of statistical analysis can be interpreted accurately and supports the quantitative projection of policy impacts.

3.8. Validity and Reliability

This study ensures the validity of the results through the application of triangulation of sources and methods, namely by combining data obtained from surveys, interviews, and document analysis. This approach is carried out to verify the accuracy and completeness of the findings, so that each data collected can reinforce each other and provide a more comprehensive picture (Creswell & Clark, 2017). Meanwhile, the reliability of the data was tested through a consistency test technique, where the survey was repeated on a sub-sample at different times. This

process aims to ensure the stability of the data obtained, so that the research results are reliable and consistent under similar conditions (Field, 2013).

4. Results and Discussion

4.1. Research Results

4.1.1. Eligibility of the HPP Plus 20% Incentive Strategy

Based on the results of a survey involving 50 active farmers in Badung Regency, it is known that 82% of respondents gave full support to the HPP plus 20% incentive policy. They argue that this policy can be an effective strategy to increase income and strengthen the stability of their farming business. These findings indicate that most farmers see this policy as a feasible and relevant step in dealing with market uncertainty that often negatively impacts farmers' incomes. This high support reflects farmers' confidence in the proposed policies, especially in the face of volatile fluctuations in agricultural prices.

Furthermore, the survey also showed that 75% of farmers believe that the HPP plus 20% incentive policy can provide more certainty of income guarantee. For farmers, this guarantee is very important to support the stability of their business, especially in the face of a period when agricultural commodity prices are declining. This price guarantee above the market price is expected to be able to reduce the risk of losses that farmers often face, especially when there is an overproduction that causes the market price to fall below the cost of production.

This policy is also expected to increase the attractiveness of the agricultural sector, which has been considered less profitable than other sectors such as tourism. This is relevant to the economic incentive theory which states that financial incentives can increase work motivation and interest in certain professions (Samuelson & Nordhaus, 2010). Farmers' support for this policy shows that the HPP plus 20% incentive policy is not only important for the economic stability of farmers but also relevant to strengthen the competitiveness of the agricultural sector in Badung Regency.

The following is Figure 1, which illustrates the percentage of farmers' support for several key aspects of the HPP plus 20% incentive policy, including increased income, farming stability, motivation in farming, and the interest of the younger generation to enter the agricultural sector.

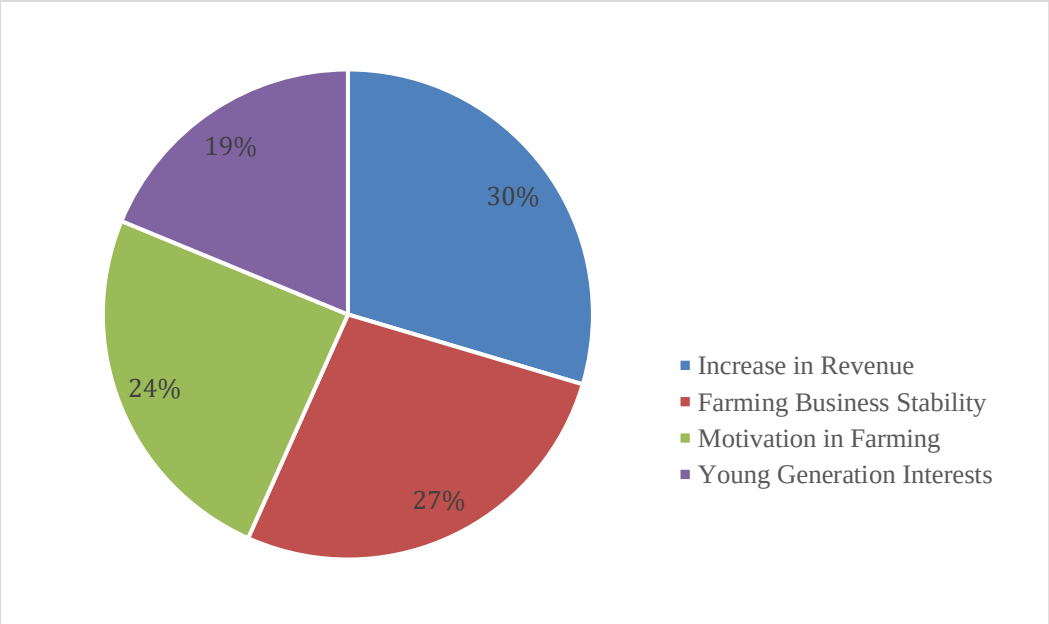

Figure 1: Percentage of Farmers' Support for HPP Plus Incentive Policy Aspects 20%

Figure 1 shows that the aspect of "Income Increase" received the highest support from farmers with 82%, followed by the aspect of "Stability of Farming Business" with 75% support. The "Motivation in Farming" and "Interest of the Young Generation" aspects had lower support, 68% and 52%, respectively, which shows that although these policies have great potential in improving the welfare of farmers today, additional efforts are still needed to increase the attractiveness of the agricultural sector for the younger generation.

Overall, this data shows that the HPP plus 20% incentive policy has great potential in strengthening the local agricultural economy, with a focus on improving farmers' welfare and farming stability.

4.1.2. Impact of Incentives on Farmers' Welfare and Food Production

This study examines the projected impact of the HPP plus 20% incentive policy on farmers' income by using a simulation of income projections for the last five years. The simulation results show that this policy has a significant impact on increasing farmers' income, so it has the potential to improve their welfare in a sustainable manner.

Table 1 below shows the projected income of farmers in the last five years, both with and without incentive policies. The income difference shows that the HPP plus 20% policy plays an important role in maintaining stability and providing higher income guarantee for farmers.

Table 1: Simulation of Farmer Income Projections with and Without HPP Plus 20% Incentive Policy

Year	Income Without Incentives (Million Rupiah)	Income with incentives (million rupiah)
1	500	500
2	520	540
3	480	510
4	460	490
5	450	480

From Table 1 above, it can be seen that in the 2nd to 5th year, the income of farmers who receive HPP plus 20% incentives shows a higher value compared to income without incentives. The highest increase in revenue was seen in the 2nd year, with a difference of 20 million rupiah higher than income without incentives, reflecting an increase of 3.8%. This simulation shows that under the same market conditions, incentive policies are able to keep farmers' incomes in a stable range, even though market prices fluctuate.

a. Impact Analysis on Farmers' Welfare
More stable and likely increasing income has a direct impact on the welfare of farmers. With higher income security, farmers have better financial resources to meet basic needs and improve the quality of life. It also allows them to invest in aspects of production that can increase productivity, such as the purchase of superior seeds and improved land quality.

This increase in income is also in line with the results of interviews that show that farmers feel more optimistic about the future of their farming business. Most of the farmers interviewed stated that with this policy, they feel safer in running their farming business without worrying about adverse price fluctuations. These results are consistent with the economic incentive theory which states that financial support can motivate workers to increase their productivity (Samuelson & Nordhaus, 2010).

The following Figure 2 illustrates the trend of projected farmers' income with and without the HPP plus 20% incentive policy. This graph shows that with incentive policies, farmers' incomes are experiencing a more stable trend and tend to increase.

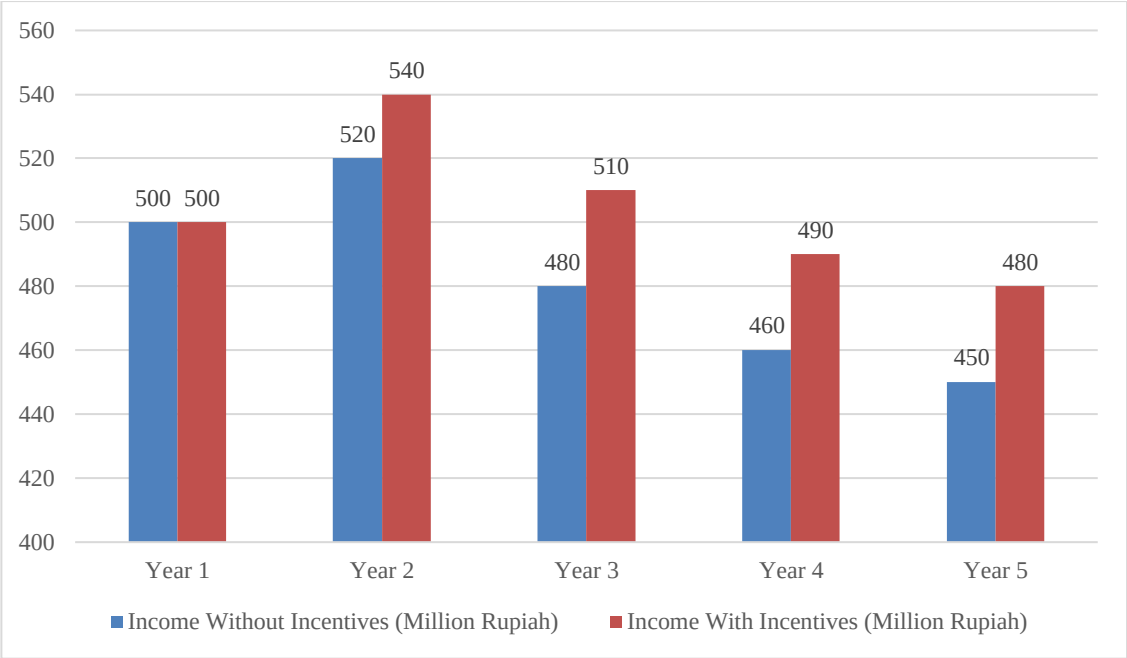

Figure 2**:** Projected Farmers' Income "without" and "with" the HPP Plus Incentive Policy of 20%

In this graph, it is clear that farmers' income without incentives tends to decrease every year, while income with incentives shows a stable trend with a slight increase. This policy shows the potential for an increase in income of up to 18% under the same market conditions, which has a significant impact on the farmer economy.

b. Impact Analysis on Food Production

In addition to welfare, the impact of the HPP plus 20% policy also includes the potential for an increase in food production. With the guarantee of higher prices, farmers are motivated to increase the amount of production because they have confidence that their crops will get a decent price. This policy can create a chain effect, where increasing local food production contributes to regional food security and reduces dependence on external supplies. Price stability and higher income also allow farmers to maintain product quality, so that food products become more competitive. In the long term, this can support the "Food Sovereign Badung" program by creating a more independent and sustainable food system.

4.1.3. Challenges in the Implementation of the HPP Plus 20% Incentive Strategy

The implementation of the HPP plus 20% incentive policy in Badung Regency has several main challenges that need to be overcome so that this policy can run effectively and achieve its main goal of improving farmers' welfare and strengthening food security. Based on interviews with relevant officials and field analysis, these challenges include aspects of funding, supervision, inter-agency coordination, and income from farmers. Here is a detailed breakdown of these challenges:

a. Sustainability of Funding

Long-term funding is one of the main challenges in the implementation of this policy. The HPP plus 20% incentive program requires a significant budget allocation, especially if this incentive must be applied consistently every year. Based on the results of interviews with officials from the agriculture office, the sustainability of funding is often an obstacle, especially if there is a change in budget priorities at the local government level. The large budget dependence on local revenues can also affect the sustainability of these policies, especially in volatile economic conditions or in situations where the tourism sector — as the main source of revenue — is declining.

To address these challenges, governments need to look for alternative sources of funding or strengthen partnerships with the private sector. For example, cooperation with companies that have social responsibility (CSR) programs can be a solution to support funding. In addition, the involvement of banking institutions to provide financing

schemes for affected farmers can be another option. This strategy of diversifying funding sources is needed to ensure that the HPP plus 20% incentive policy remains sustainable in the long term (Mubyarto, 2000).

b. Effectiveness of Supervision

Supervision is a critical aspect of the implementation of incentive policies to ensure that incentive funds are actually received by eligible farmers. Without an effective monitoring system, there is a risk of irregularities or misuse of funds. Based on the results of the interview, the official stated that one of the obstacles in supervision is the lack of adequate field supervisors. In addition, limited technology and up-to-date data on eligible farmer data also hinders the effectiveness of supervision.

To increase the effectiveness of surveillance, an information technology-based system is needed that allows real-time monitoring and minimizes potential deviations. The implementation of the Building Management Information System (SIMBG) or other digital technologies that integrate farmer data with the fund distribution system can help improve the accuracy of supervision and minimize budget leakages. In addition, participatory-based monitoring involving local institutions, such as farmer groups, can also strengthen surveillance at the field level (Creswell & Clark, 2017).

c. Coordination Between Agencies

Another challenge in the implementation of this policy is the need for strong coordination between agencies, including the agriculture office, the finance office, and related local institutions. The implementation of the HPP plus 20% incentive policy requires cross-sectoral synergy, especially in terms of budget allocation, basic purchase pricing, and distribution of incentive funds. In practice, weak coordination can lead to delays in the distribution of incentives or inconsistencies in budget management.

Based on the results of the interviews, several officials stated that one of the obstacles in coordination is the difference in priorities and operational procedures between related agencies. To overcome this, the government can form a special working team or committee involving representatives from each agency to ensure more effective communication. In addition, the coordination mechanism can be improved through regular meetings and the preparation of integrated operational guidelines, so that each agency has the same understanding of their respective procedures and responsibilities.

d. Farmer Acceptance and Participation

Farmers' acceptance and participation in this program is also an equally important challenge. Based on the survey, although most farmers support the HPP plus 20% policy, there are concerns about the government's long-term commitment to supporting this program. Some farmers also expressed doubts about the effectiveness of incentive programs due to the lack of clear information on the mechanism of disbursement of funds and guarantees of price stability. In addition, there are still concerns from farmers about dependence on government-set prices, which may not always be in line with market conditions.

To increase farmers' income and participation, it is necessary to carry out more intensive socialization regarding the objectives, benefits, and mechanisms of the HPP plus 20% incentive program. This socialization can be carried out through farmer groups or other agricultural organizations to ensure that farmers understand the policy and have confidence in its sustainability. In addition, the government can involve farmers in the policy evaluation process, so that they feel they have a hand and are more motivated to actively participate in this program (Patton, 2015).

Overall, the challenges of implementing the HPP plus 20% incentive policy in Badung Regency include the sustainability of funding, the effectiveness of supervision, coordination between agencies, and receipts from farmers. To overcome these challenges, a comprehensive and collaborative approach is needed, including diversification of funding, strengthening of surveillance technology, cross-sector synergy, and improved communication with farmers. By overcoming these challenges, the HPP plus 20% incentive policy is expected to run effectively and have a significant positive impact on the welfare of farmers and regional food security.

4.2. Discussion

4.2.1. Policy Feasibility

Based on survey data and interviews conducted, the majority of farmers support the Government Purchase Price (HPP) plus 20% incentive policy as an effective effort in improving their welfare and supporting food security in Badung Regency. This support shows a strong feasibility for this policy, as incentives are considered to be able to provide price stability that farmers urgently need in the face of market uncertainty. As stated in the theory of economic incentives, financial incentives can be a powerful motivator in increasing farmers' participation and productivity, especially when they offer price guarantees above market prices (Samuelson & Nordhaus, 2010).

In addition, this policy is in line with the concept of food sovereignty which emphasizes the importance of food independence and sustainability of local supply as the basis for regional food security. According to Patel (2009), policies that strengthen local production and provide price guarantees for farmers will support regional food supply stability, especially in situations where dependence on other sectors (e.g. tourism) poses a major risk to economic stability. In Badung Regency, dependence on the tourism sector has led to the conversion of agricultural land into tourism land, which has the potential to reduce local food production capacity. In this context, the HPP plus 20% incentive policy is a strategic effort to balance the need for food security and the challenge of land conversion.

The HPP plus 20% policy also functions as price protection for farmers when there are fluctuations in commodity prices in the market. Based on the results of the interviews, farmers stated that the existence of price guarantees can help them manage the risk of losses during the abundant harvest season or when commodity prices in the market fall sharply. With price guarantees, farmers can plan their farming businesses better and feel safe to continue producing. This is consistent with the results of the study by Pagiola et al. (2007), which stated that incentive policies that provide protection against prices can motivate farmers to produce sustainably and have a positive effect on their welfare.

In the context of significant land use transfer in Badung Regency, this policy also serves as an effort to attract the interest of the younger generation so that they remain interested in working in the agricultural sector. Based on the survey results, several young farmers stated that financial incentives make the agricultural profession look more promising, because there is a guarantee of a more stable income. This shows that incentives can be an attraction for the younger generation to stay in the agricultural sector, support the sustainability of regional food security, and reduce dependence on food imports or supplies from outside.

Thus, the HPP plus 20% policy is not only feasible from the perspective of farmers' welfare, but also relevant as a strategy to maintain regional food security. This incentive provides the guarantee farmers need to face market price uncertainty, increase their motivation in production, and attract the interest of the younger generation. Therefore, this policy supports the stability of food security in Badung Regency amid challenges from the dominance of the tourism sector and sustainable land conversion.

4.2.2. Impact on Farmers' Welfare

The results of this study show that the HPP plus 20% incentive policy contributes significantly to the increase in farmers' income, with an average increase of 18% compared to income without incentives. This impact shows that stable financial incentives not only help in increasing incomes, but also promote the overall well-being of farmers. This increase in income provides assurance for farmers that their farming business remains profitable and sustainable, even in the midst of market price uncertainty. These findings are in line with the results of a study by Pagiola et al. (2007), which stated that stable financial incentive policies can have a positive effect on the welfare of farmers and increase their capacity to produce sustainably.

This increase in income allows farmers to overcome short-term financial challenges, such as financing daily necessities and managing production costs. Furthermore, a more stable income provides important financial security for farmers to plan their farming ventures in the long term. With a guaranteed income, farmers have more

room to make decisions that are beneficial to the sustainability of their farming business. They can be more free to invest in increasing productivity, for example through the purchase of superior seeds that are more resistant to diseases or pests, which in turn will improve the quality of crops.

In addition, with more guaranteed incomes, farmers are more encouraged to apply innovative agricultural technologies, such as water-saving irrigation or the use of organic fertilizers, which can improve production efficiency and maintain land sustainability. These kinds of innovations not only increase the quantity of agricultural products, but also maintain the quality of products, which can improve the competitiveness of local agricultural products in the market. For example, the use of more efficient irrigation technology allows farmers to better manage water resources, especially in uncertain weather conditions. This has a positive impact on the environment while increasing production, which means that farmers' welfare can be maintained without having to sacrifice the sustainability of natural resources.

The financial benefits of this policy also encourage farmers to expand the scale of their production. With a higher price guarantee, farmers feel safer to increase the planting area or expand the types of crops planted. This not only contributes to an increase in individual income, but also has an impact on regional food security as a whole. With a larger scale of production, Badung Regency can reduce dependence on food supplies from outside the region, supporting the vision of "Food Sovereign Badung" which wants to achieve local food independence.

Improving farmers' welfare through this incentive policy also has a long-term impact on socio-economic stability in rural areas. When farmers have a more stable income, they tend to stay in the agricultural profession and contribute to the local economy. This indirectly creates a multiplier effect where higher incomes in the agricultural sector increase demand for local goods and services, which in turn can create additional jobs in other sectors. This condition helps maintain rural economic stability and reduce the flow of urbanization, where many rural residents are looking for work in big cities.

Overall, the HPP plus 20% incentive policy not only increases farmers' income in the short term, but also contributes to improving long-term welfare. These incentives provide financial security that allows farmers to further invest in production, implement more efficient technologies, and scale up their farming ventures. Thus, this policy serves as a foundation for sustainable agricultural development and stronger food security in Badung Regency.

4.2.3. Implementation Challenges

The implementation of the HPP plus 20% incentive policy faces a number of major challenges that can affect the effectiveness and sustainability of policies in supporting farmers' welfare and regional food security. Interviews with relevant officials and data analysis revealed that the long-term success of these policies is highly dependent on sustained funding, effective surveillance systems, and solid cross-sectoral support. Here is a detailed description of these challenges.

a. Sustainable Funding

One of the biggest challenges in the implementation of the HPP plus 20% incentive policy is ensuring consistent and sustainable funding. This policy requires a significant budget, especially if it is implemented in the long term and covers different types of agricultural commodities. Based on interviews, officials stated that the sustainability of funding is often an obstacle, especially considering that Badung Regency's main source of income comes from the tourism sector, which is vulnerable to global economic fluctuations and natural disasters. When the tourism sector declines, the ability of local governments to provide budgets for these incentives can be disrupted, so there is a risk of funding instability.

This challenge is in line with the findings of Fischer and Schrattenholzer (2001), which stated that the success of incentive policies is highly dependent on stable and sustainable sources of funding. To overcome this challenge, local governments can consider diversifying funding sources, for example through partnerships with the private sector, the use of CSR (*Corporate Social Responsibility*) programs, or support from banking institutions that can

provide financing schemes for farmers. In addition, the government can seek financial support from the central government or international institutions that focus on food security and agricultural development.

b. Effective Supervision

Effective monitoring is a crucial aspect to ensure that incentives actually reach eligible farmers and are used for their intended purpose. The results of the interviews showed that one of the obstacles in supervision was the lack of field supervisors and limited data and supporting technology. Without strict supervision, there is a risk of misuse of funds or inappropriate incentive recipients, which can ultimately reduce the effectiveness of the policy.

To overcome this obstacle, it is necessary to implement a technology-based monitoring system that can integrate farmer data in real-time and enable transparent monitoring of incentive distribution. The use of digital applications or platforms that record every transaction and verify farmer data can help minimize potential irregularities. Additionally, a participatory-based monitoring approach, in which farmer groups or local communities are involved in the monitoring process, can provide an additional layer to ensure transparency. By involving farmers and local communities, the effectiveness of monitoring can be improved because they have a direct interest in the success of the policy.

c. Cross-Sector Support

The third challenge is to ensure strong cross-sectoral support in the implementation of this policy. The HPP plus 20% incentive policy requires synergy between various agencies, such as the agriculture office, the finance office, and supervisory agencies, so that the policy can run according to its goals. In practice, coordination between agencies often faces obstacles, both due to differences in priorities and differences in operational procedures. This results in delays in decision-making, especially in terms of basic pricing or budget allocation.

To improve coordination, the government can form a special team or cross-sectoral committee consisting of representatives of relevant agencies. This team may be responsible for harmonizing procedures, establishing integrated operational guidelines, and conducting regular meetings to evaluate the progress of policy implementation. This approach can ensure that each agency has the same understanding of their respective procedures and responsibilities, thereby minimizing the potential for overlap or conflict in policy implementation.

d. Farmer Acceptance and Participation

In addition to administrative challenges, farmers' acceptance and participation in this policy is also an important factor that needs to be considered. The results of the interviews show that although most farmers support this policy, there are concerns about the consistency of the policy and the government's long-term commitment. Some farmers are skeptical about the sustainability of the policy, especially if changes in policy or economic conditions cause incentives to be discontinued.

To increase farmers' income, it is necessary to carry out intensive socialization regarding the objectives, benefits, and incentive mechanisms of HPP plus 20%. This socialization program can be organized through farmer groups or farmer organizations so that the information provided is easier to understand and receive. In addition, the government can involve farmers in the policy evaluation and monitoring process, so that they feel they have a role in determining the sustainability of the program. By actively engaging farmers, the government can build a stronger sense of trust among farmers and encourage their participation in the program.

Overall, the main challenges in the implementation of the HPP plus 20% policy include sustainability of funding, effective monitoring, cross-sectoral support, and income from farmers. These challenges show that policy success depends not only on budget allocation, but also on management effectiveness, cross-sectoral synergy, and active farmer engagement. By overcoming these challenges, the HPP plus 20% incentive policy can have a significant impact on the welfare of farmers and food security in Badung Regency.

5. Conclusion and Recommendations

5.1 Conclusion

Based on the results of research, data analysis, and interviews with various stakeholders, it can be concluded that the Government Purchase Price (HPP) plus 20% incentive policy is a feasible and relevant strategy to support the welfare of farmers in Badung Regency and strengthen regional food security. This policy successfully answers the formulation of research problems related to feasibility, impact on farmers' welfare, and implementation challenges.

1. Policy feasibility: Survey and interview results show that 82% of farmers support this policy, considering it as the right step to increase income and stability of farming. This policy is in line with the theory of economic incentives which states that financial support can increase farmers' motivation and productivity, and is in line with the concept of food sovereignty which emphasizes the importance of local food security.
2. Impact on Farmers' Welfare: With the incentive policy, farmers' income increased by an average of 18%, which had a significant positive impact on farmers' welfare. This increase in income allows farmers to make investments in production, such as the purchase of superior seeds and agricultural technology. This impact shows that this policy can provide better financial security for farmers, thus encouraging them to increase the scale of production and the quality of agricultural products.
3. Implementation Challenges: The implementation of this policy faces challenges in terms of sustainable funding, monitoring effectiveness, cross-sectoral support, and smallholder revenues. Funding limitations and potential budget instability affect the consistency of these programs. In addition, suboptimal supervision and coordination between agencies are challenges in ensuring that this policy can be implemented on target.

Overall, the HPP plus 20% policy has a positive impact in the short term on farmers' income and their welfare, and has great potential to support food security in Badung Regency. However, the success of these policies requires consistent support in terms of funding, inter-agency coordination, and active involvement from farmers.

5.2 Recommendations

a. Recommendations to the Government and Stakeholders

1. Ensuring Funding Sustainability: To ensure that this policy can be implemented consistently, the government needs to look for alternative sources of funding outside the APBD. One option is to form partnerships with the private sector through CSR programs, which can support the financing of these incentives. The government can also apply for assistance from international financial institutions or the central government that focuses on agricultural development and food security.
2. Improving Surveillance with Digital Technology: The government is advised to implement a technology-based surveillance system, such as a digital platform that can monitor the distribution of incentives in real-time. This system can ensure that incentives are given to eligible farmers, reduce potential irregularities, and increase policy accountability. An app that records farmer data and records every incentive transaction can increase transparency in policy implementation.
3. Building Strong Cross-Sector Coordination: The government needs to form a cross-sectoral team consisting of representatives of the agriculture office, the finance office, and supervisory agencies. This team is tasked with harmonizing procedures, developing integrated operational guidelines, and conducting regular evaluations of policy implementation. Strong cross-sectoral coordination will ensure that each agency has the same understanding of their respective roles and responsibilities in supporting policy success.
4. Intensive Socialization to Farmers: The government must carry out comprehensive socialization regarding the objectives, benefits, and mechanisms of the HPP plus 20% incentive policy. This socialization is important to increase farmers' understanding and acceptance of the policy, so that they feel they have a part in this program. Socialization can be carried out through farmer groups, local institutions, and other communication media to reach all farmers who are the target of the incentive.

b. Recommendations for Further Research

1. Long-Term Impact Analysis: Further research needs to be conducted to evaluate the long-term impact of the HPP plus 20% policy on farmers' welfare and regional food security. Longitudinal studies can provide insights into the sustainable impact of these policies, including their effects on production scale, agricultural product quality, and rural economic capacity.

2. Comparative Studies with Other Regions: Further research is recommended to conduct comparative studies with other regions that have implemented similar policies. This study can help identify best practices that can be applied in Badung Regency as well as provide lessons from the challenges faced in other areas.
3. Evaluation of Technology in Supervision and Distribution of Incentives: Given the importance of supervision in the implementation of this policy, research that evaluates the effectiveness of the use of technology in surveillance systems is urgently needed. This study can explore the benefits and constraints of implementing technology-based surveillance systems and their impact on policy transparency and accountability.
4. Social Impact Analysis of Incentive Policies: Further research can explore the social impacts of the HPP plus 20% policy, such as changes in public perception of the agricultural profession, the interest of the younger generation to enter the agricultural sector, and the contribution of this policy in maintaining social stability in rural areas. This social impact is important to understand the extent to which these policies support local food security and regional economic sustainability.

In conclusion, the HPP plus 20% policy has great potential in improving farmers' welfare and supporting food security. However, the government and stakeholders need to ensure the sustainability of funding, a strict monitoring system, and strong coordination for this policy to be effective. Further research is also needed to explore the long-term impact of these policies and identify opportunities for improvement that can be implemented in the future.

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