www.bircu-journal.com/index.php/birci
Budapest International Research and Critics Institute-Journal (BIRCI-Journal)
Humanities and Social Sciences
ISSN 2615-3076 Online)
ISSN 2615-1715 (Print)
Budapest Institute

# Strategy for Implementation of the Internal Tani Card Program Supporting Subsidied Fertilizer Distribution in Kendal Regency, Central Java Province

**Dewi Apriliyani[1], Agus Setiadi[2], Mukson[3]**
[1,2,3]*Faculty of Animal Husbandry and Agriculture, Universitas Diponegoro, Semarang, Indonesia*
*dyani300480@gmail.com*

## Abstract

*This study aims to analyze the implementation strategies of farmer card program for helping the distribution of subsidized fertilizers in Kendal Regency. This study used descriptive qualitative method - by using strength, opportunities, weakneses and threats (SWOT), Analytic Hierarchy Process (AHP) and statistical Package for the social sciences (SPSS) analysis. Respondents were 100 farmers with the criteria of farmers registered in the group needs definitive plan (RDKK) and farmers who had farmer cards. The results of the SWOT analysis showed that the implementation of the farmer card program in Kendal district was in quadrant I position, which showed understanding of aggressive growth conditions. AHP analysis showed that the priority strategy for implementing the farmer card program was obtained by the Government's strategy, that was defined as the Government's effort to provide a budget for infrastructure and supervision of subsidized fertilizer distribution. The regression analysis showed that several variables such as education, land area, fertilizer, pesticides and labor had a significant effect on rice production, while variable of age, length of business, capital and seeds possessed no significant effect on rice production in Kendal Regency.*

Keywords
strategy implementation; priority strategy; farmer's card; rice production

## I. Introduction

Subsidized fertilizer policy has been regulated in the Presidential Regulation of the Republic of Indonesia Number 15 of 2011 concerning Amendments to Presidential Regulation Number 77 of 2005 concerning the Stipulation of Subsidized Fertilizer as an item under supervision. The distribution of subsidized fertilizer distribution allocations must comply with Principle 6 Appropriate as stipulated by a ministerial decree through the Minister of Trade Regulation No. 15/M.Dag/Per/4/2013 concerning the Procurement and Distribution of Subsidized Fertilizer for the agricultural sector: "The 6 (six) Right Principle is the principle of multiplying and distributing subsidized fertilizer which includes the Right Type, Amount, Price, Place, Time and Quality ( Mufidah and Prabawati, 2019).

The process of distributing subsidized fertilizers begins with a proposal from a farmer group, namely making a proposal for the fertilizer needs of its member farmers as outlined in the Definitive Plan for Group Needs (RDKK). The Definitive Plan for Group Needs (RDKK) is sent to retailers (kiosks) or Gapoktan who act as official retailers (Line VI) and then a recapitulation of the proposed fertilizer needs is sent to the District/City Agriculture Office and then in stages submitted to the Provincial Agriculture Service and the Ministry of Agriculture (National Development Planning Agency, 2011).

The farmer card is a service provided by the government for farmers in collaboration with banking services that function as savings, transactions, loan distribution, and fertilizer

subsidy cards. This farmer card program was initiated by the Central Java Provincial Government and has been implemented in 35 districts/cities in Central Java, one of which is Kendal Regency. The use of farmer cards in Kendal Regency has spread across 20 sub-districts with a total of 73,293 registered farmers from 765 farmer groups with an area of 121,108.93 hectares with 69,805 printed cards. In addition, to support the implementation of farmer cards, each Complete Fertilizer Kiosk (KPL) as a fertilizer agent in each sub-district is equipped with an Electronic Data Capture (EDC) machine. However, of all registered KPLs, there are still some EDC machines that have not been installed, namely 60 KPLs. The following is the progress of farmer cards in Kendal Regency as follows:

**Table 1.** Progress of Kendal Regency Farmer Card in November 2020

| No | Description | Amount |
|---|---|---|
| 1 | SIMPI registered farmers | 74,844 people |
| 2 | Farmers registered in e-RDKK | 73,293 people |
| 3 | Registered Farmers Group | 765 Poktan |
| 4 | Land Area (SIMPI) | 44,312.30 Ha |
| 5 | Land area (E-RDKK) | 121.108.93 Ha |
| 6 | Printed Farmer's Card | 71,963 Cards |
| 7 | Unprinted farmer card | 1,330 Cards |
| 8 | Distributed Farmer's Cards | 69,805 Cards |
| 9 | Complete Fertilizer Kiosk registered | 295 Kiosk |
| 10 | *Electronic Data Capture* (EDC) installed | 235 EDC |

Source: Kendal Regency Agriculture and Food Service in 2020

The following is data on the allocation and realization of subsidized fertilizers in Kendal Regency:

**Table 2.** Allocation and Realization of Subsidized Fertilizer in Kendal Regency

| **Fertilizer Type** | **Allocation (Tons)** | **Realization (Tons)** | **Percentage (%)** |
|---|---|---|---|
| Urea | 27,500 | 27,317.085 | 96.40 |
| SP36 | 4.151 | 4051.98 | 97.61 |
| ZA | 6.615 | 5,736.81 | 86.72 |
| NPK | 14,790 | 14,739.02 | 99.66 |
| Organic | 5.350 | 4,861.07 | 90.86 |
| Amount | 58.406 | 56,705,965 | 97.09 |

Source: Kendal Regency Agriculture and Food Service in 2020

Based on table 1, it is stated that there are still farmer cards that have not been printed or have not been distributed to farmers, which has resulted in a small quota of subsidized fertilizers. Meanwhile, based on Table 2, it is found that the realization of the distribution of all types of subsidized fertilizers is still not optimal.

Kendal Regency also has economic characteristics which are dominated by the agricultural sector, which consists of sub-sectors of food crops, plantations, forestry, fisheries and livestock. Based on Kendal Regency Central Statistics Data in 2020. So the agricultural sector plays an important role in the Kendal Regency economy with the highest GRDP contribution obtained from the manufacturing sector at 41.80%, followed

by the agricultural sector at 19.08% and the wholesale and retail trade sector; repair of cars and motorcycles by 12.20%.

Rice is the main commodity produced by farmers from the agricultural sector. Rice production in 2020 experienced a decline in productivity, this was due to the area of rice fields that experienced changes in the function of rice fields into housing, plantations and toll roads.

The outbreak of this virus has an impact of a nation and Globally (Ningrum et al, 2020). The presence of Covid-19 as a pandemic certainly has an economic, social and psychological impact on society (Saleh and Mujahiddin, 2020). Covid 19 pandemic caused all efforts not to be as maximal as expected (Sihombing and Nasib, 2020).

Other factors are limited capital due to the impact of the COVID-19 pandemic, a small number of workers, minimal knowledge of farmers, limited availability of irrigation water, the use of technology that is still traditional to the scarcity of fertilizers. The decline in rice production is certainly not in accordance with the government's goal of improving the welfare of farmers, moreover it will have an impact on the availability of rice food needed by the community, resulting in an increase in other food prices.

The farmer card program is expected to be able to increase rice production for the better in Kendal Regency. Therefore, there is a need for research on the implementation of a more effective farmer card program in order to support and determine the factors that influence in increasing farmer productivity in Kendal Regency.

## II. Review of Literature

### 2.1 Agricultural Cultivation

Agriculture is the activity of utilizing biological resources by humans to produce food, industrial raw materials, energy sources and to manage their environment. The activities of utilizing biological resources which are included in agriculture are commonly understood by people as cultivating plants or growing crops and raising livestock. Farming is a core part of agriculture because it involves a set of activities carried out in cultivation. (Damanik, 2014).Philosophically, productivity implies a view of life and a mental attitude that always strives to improve the quality of life. From this opinion, it can be concluded that productivity is highly dependent on the input units provided by the workforce and the output units produced by the workforce to obtain profits in the agricultural business. Nurmala, (2012) states that productivity is the ability of the soil to produce good and profitable crop production for farmers who cultivate it. If agricultural products are not in accordance with what he wants, it means that the land is not productive and needs more optimum processing.

### 2.2 Farmer's Card

The Tani Card is a co-branded BRI debit card that is used specifically to read subsidized fertilizer allocations and subsidized fertilizer payment transactions at BRI's Electronic Data Capture (EDC) machines placed at retailers and can function to perform all banking transactions in general. Each transaction for redemption of subsidized fertilizer will automatically reduce the allocation of subsidized fertilizer and the balance in the farmer's savings account. In the quota management system, a farmer data base will be stored in accordance with the RDKK and the quota of each farmer, as well as monitored data on farmers who buy subsidized fertilizers, the amount of fertilizer that has been sold and the rest of the subsidized fertilizers that have not been purchased.

### 2.3 Subsidized Fertilizer

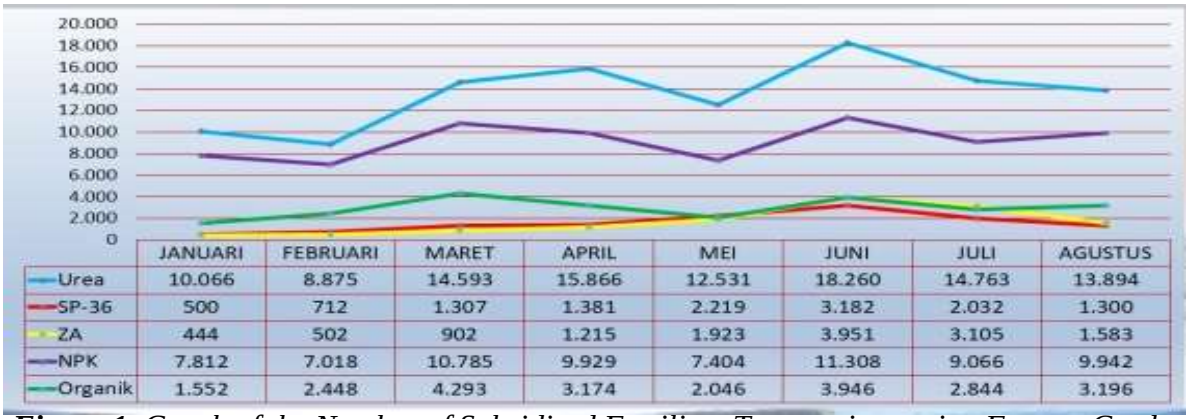
Presidential Regulation of the Republic of Indonesia Number 77 of 2005 concerning Stipulation of Subsidized Fertilizer as an item under supervision because fertilizer is a very important commodity in the effort to achieve national food security and the government has provided subsidies in the context of procurement and distribution of certain types of fertilizers in order to supervise the procurement and distribution of suitable fertilizers obtaining subsidies is deemed to have determined subsidized fertilizers as goods under supervision. Subsidized fertilizers consist of Urea, SP 36, ZA and NPK.

## III. Research Method

This study used descriptive qualitative method. By using SWOT, AHP and SPSS analysis. Respondents were 100 farmers with the criteria of farmers registered in the RDKK and farmers who had farmer cards located in 5 sub-districts in Kendal Regency, namely Sukorejo District and Singorojo District representing mountainous areas. Ngampel District and Kendal District represent the coastal characteristic area and Gemuh District represent the commodity characteristic area.

## IV. Results and Discussion

The Department of Agriculture and Food of Kendal Regency in implementing the farmer card program has formed a subsidized fertilizer policy working group that has full responsibility for implementing the farmer card program, including: conducting outreach, service, data collection, distribution, supervision and reporting of the farmer card program. The Kendal District Agriculture and Food Service has also collaborated with several parties to make this program a success, including the Kendal District Trade Office, Bank Rakyat Indonesia Kendal Branch, PT. Pusri and Complete Fertilizer Kiosk (KPL). Until 2021, all KPLs already exist in 20 sub-districts in Kendal Regency with a total of 284 KPLs and 72,365 farmers who already have farmer cards. The following is a graph of the number of subsidized fertilizer transactions using farmer cards in Kendal Regency.




| | JANUARI | FEBRUARI | MARET | APRIL | MEI | JUNI | JULI | AGUSTUS |
|---|---|---|---|---|---|---|---|---|
| Urea | 10.066 | 8.875 | 14.593 | 15.866 | 12.531 | 18.260 | 14.763 | 13.894 |
| SP-36 | 500 | 712 | 1.307 | 1.381 | 2.219 | 3.182 | 2.032 | 1.300 |
| ZA | 444 | 502 | 902 | 1.215 | 1.923 | 3.951 | 3.105 | 1.583 |
| NPK | 7.812 | 7.018 | 10.785 | 9.929 | 7.404 | 11.308 | 9.066 | 9.942 |
| Organik | 1.552 | 2.448 | 4.293 | 3.174 | 2.046 | 3.946 | 2.844 | 3.196 |

***Figure 1.*** *Graph of the Number of Subsidized Fertilizer Transactions using Farmer Cards in Kendal Regency as of August 31, 2021*

### 4.1 SWOT Analysis

#### a. Identification of Internal Factors and IFAS Matrix

Following are the identification of various strengths and weaknesses of the farmer card program in Kendal Regency, and the results of the recapitulation of the IFAS matrix.

**Table 3.** Matrix of Internal Strategic Factor Analysis Summary (IFAS)

| Key Factors of Internal Strategy | Weight | Rating | Total |
|---|---|---|---|
| **STRENGTH** | | | |
| Strong Government Support in farmer cards | 0.11 | 4.4 | 0.484 |
| Established a database of subsidized fertilizer recipients | 0.1 | 3.9 | 0.390 |
| Facilitate monitoring of each level of fertilizer demand proposal | 0.1 | 3.9 | 0.390 |
| The Service Officers / Extension Officers have worked well | 0.11 | 4.1 | 0.451 |
| Certainty of getting subsidized fertilizer | 0.095 | 3.7 | 0.351 |
| The fertilizer recipient is right on target | 0.095 | 3.7 | 0.351 |
| Ease of getting subsidized fertilizer | 0.095 | 3.7 | 0.351 |
| The requirements for applying for a farmer card are easy | 0.1 | 3.9 | 0.390 |
| The number of Retailers/KPL is sufficient | 0.095 | 3.7 | 0.351 |
| The infrastructure for using the farmer card is good | 0.1 | 3.8 | 0.380 |
| Amount | **1.00** | | **3,889** |
| **WEAKNESS** | | | |
| Not yet integrated with other programs as a condition for receiving assistance | 0.11 | 3.4 | 0.374 |
| There is no legal umbrella that confirms that KPLs are required to serve using farmer cards | 0.1 | 3.2 | 0.320 |
| Farmer card socialization is still minimal | 0.09 | 3.1 | 0.279 |
| Printing and distribution of old Farmer Cards | 0.1 | 3.3 | 0.330 |
| The procedure for using the Farmer's Card is not understood | 0.1 | 3.2 | 0.330 |
| There is no assistance from special officers for Kartu Tani to farmers | 0.095 | 3.1 | 0.294 |
| Prices of subsidized fertilizers that are not in accordance with HET | 0.095 | 3.1 | 0.294 |
| Farmers are not used to using cards in purchasing subsidized fertilizers | 0.1 | 3.3 | 0.330 |
| The farmer card program has not been fully implemented in KPL | 0.1 | 3.2 | 0.320 |
| Availability of fertilizers that are not in the right amount, on time | 0.11 | 3.4 | 0.374 |
| Amount | **1.00** | | **3,245** |

### b. Identification of External Factors and the EFAS Matrix

The following is the identification of various opportunities and threats of the farmer card program in Kendal Regency, and the results of the recapitulation of the EFAS matrix.

**Table 4.** External Matrix Strategic Factor Analysis Summary (EFAS)

| Key Factors of Internal Strategy | Weight | Rating | Total |
|---|---|---|---|
| **OPPORTUNITY** | | | |
| Government budget assistance | 0.095 | 3.4 | 0.323 |
| Addition of HR / Extension Officer | 0.1 | 3.6 | 0.360 |
| Adding third party partners/cooperation (socialization) | 0.1 | 3.5 | 0.350 |
| Easy procedure for farmers | 0.11 | 3.7 | 0.407 |
| Addition of Retailer/KPL | 0.095 | 3.4 | 0.323 |
| Adding fertilizer quota | 0.1 | 3.6 | 0.360 |

| | | | |
|---|---|---|---|
| Increase the number of farmers who have not registered | 0.1 | 3.5 | 0.350 |
| Ease of service implementation of the farmer card program | 0.11 | 3.8 | 0.418 |
| Easy information on farmer card program | 0.095 | 3.4 | 0.323 |
| Communication media for the farmer card program stakeholders | 0.095 | 3.4 | 0.323 |
| Amount | **1.00** | | **3,537** |
| **CHALLENGE** | | | |
| Farmer's economic condition | 0.1 | 3.2 | 0.320 |
| Low understanding of farmer card program | 0.1 | 3.2 | 0.320 |
| Limited supply of fertilizer | 0.1 | 3.3 | 0.330 |
| Inadequate infrastructure | 0.1 | 3.2 | 0.320 |
| Price competition for fertilizer retailers outside partners | 0.11 | 3.4 | 0.374 |
| Expensive fertilizer prices | 0.11 | 3.4 | 0.374 |
| Non-compliance with farmer card program | 0.09 | 3.1 | 0.279 |
| Limited Government Budget | 0.1 | 3.2 | 0.320 |
| Limited Human Resources / Extension Officers | 0.09 | 3.1 | 0.279 |
| Incomplete regulations | 0.1 | 3.2 | 0.320 |
| Amount | **1.00** | | **3,236** |

Based on the results obtained from the results of internal and external analysis in the table above, in terms of coordinate equations, it can be done based on the following calculations:

1. The coordinates of the internal analysis are the total score of strength-weakness score divided by 2, then (3.889-3.245): 2 = 0.32
2. The coordinates of the external analysis are the total score of the opportunity-challenge score divided by 2 then (3.537-3.236): 2 = 0.15

Based on the results above, it can be determined that the coordinates of the point are located at 0.32: 0.15.


***Figure 2.*** *SWOT Diagram of the Farmer Card Program in Kendal Regency*

From the diagram in Figure 2 it can be concluded that the implementation of the farmer card program in 5 sub-districts in Kendal district is in quadrant I position, which has an understanding of aggressive growth conditions, which have good opportunities and strengths to continue to run, implement and develop the farmer card program effectively.

After knowing the position of internal and external analysis, then the next step is to make a SWOT matrix to find out the strategy that will be used in the development of this farmer card program.

**Table 5.** S. Matrix*trenth, Opportunities, Weaknesses and Threats* (SWOT)

| IFAS / EFAS | ***Strength (S)*** | ***Weaknesses (W)*** |
|---|---|---|
| | 1. Strong Government Support in farmer cards<br>2. Established a database of subsidized fertilizer recipients<br>3. Facilitate monitoring of each level of fertilizer demand proposal<br>4. The Service Officers / Extension Officers have worked well<br>5. Certainty of getting subsidized fertilizer<br>6. The fertilizer recipient is right on target<br>7. Ease of getting subsidized fertilizer<br>8. The requirements for applying for a farmer card are easy<br>9. The number of Retailers/KPL is sufficient<br>10. The infrastructure for using the farmer card is good | 1. Not yet integrated with other programs as a condition for receiving assistance<br>2. There is no legal umbrella that confirms that KPLs are required to serve using farmer cards<br>3. Farmer card socialization is still minimal<br>4. Printing and distribution of old Farmer Cards<br>5. The procedure for using the Farmer's Card is not understood<br>6. There is no assistance from special officers for Kartu Tani to farmers<br>7. Prices of subsidized fertilizers that are not in accordance with HET<br>8. Farmers are not used to using cards in purchasing subsidized fertilizers<br>9. The farmer card program has not been fully implemented in KPL<br>10. Availability of fertilizers that are not in the right amount, on time. |
| ***Opportunity (O)*** | ***SO Strategy*** | ***WO Strategy*** |
| 1. Government budget assistance<br>2. Addition of HR / Extension Officer<br>3. Adding third party partners/cooperation (socialization)<br>4. Easy procedure for farmers<br>5. Addition of Retailer/KPL<br>6. Adding fertilizer quota<br>7. Increase the number of farmers who have not registered<br>8. Ease of service implementation of the farmer card program<br>9. Easy information on farmer card program<br>10. Communication media for | 1. The government always provides a budget for infrastructure and supervision of subsidized fertilizer distribution (S1, S10, O1, O4, O6, O7)<br>2. The innovation of making information media for implementing website-based farmer cards belonging to Kendal Regency (S2, S3, O9, O10)<br>3. Addition of HR/Field Extension Officers both contracts/PNS within the Kendal Regency Agriculture and Food Service to serve the farmer card program well | 1. The government makes rules for receiving subsidized fertilizers that are integrated with other assistance and KPLs are required to serve farmer cards according to the HET price (W1,W2,W7,W9,O1,O5)<br>2. Provision of third party partners/cooperation in the socialization of the farmer card program (W3,O3)<br>3. Increasing the number of HR/Field Extension Officers in socialization, service and assistance for the farmer card program (W4,W5,W6,W8,O2,04,O7,O8)<br>4. Availability of information and communication systems |

| | | |
|---|---|---|
| the farmer card program stakeholders | (S3,S4,S5,S6,S7,S8,O2,O8)<br>4. Adding partners for socialization and KPL for the operation of distributing subsidized fertilizers (S9,O3,O5) | regarding the availability and needs of fertilizers (W10, O3, O6, O9, O10) |
| ***Threats (T)***<br>1. Farmer's economic condition<br>2. Low understanding of farmer card program<br>3. Limited supply of fertilizer<br>4. Inadequate infrastructure<br>5. Price competition for fertilizer retailers outside partners<br>6. Expensive fertilizer prices<br>7. Non-compliance with farmer card program<br>8. Limited Government Budget<br>9. Limited Human Resources / Extension Officers<br>10. Incomplete regulations | ***ST strategy***<br>1. The government prepares rules related to integrated assistance with other assistance, KPL and non-compliance sanctions in the farmer card program (S1,S9,T1,T5,T7,T10)<br>2. Availability of infrastructure for managing recipient databases, submissions, fertilizer needs and fertilizer prices for the farmer card program (S2,S3,S5,S6,S7,S8,S10,T2, T3,T4,T6)<br>3. Addition of HR/Field Extension Officers with existing budget constraints (S4,T8,T9) | ***WT Strategy***<br>1. Farmer card recipients can be integrated with other assistance from the Government (W1,T1)<br>2. The government makes rules regarding KPLs that are obliged to serve and comply with the farmer card program (W2, W7, W9, T5, T6, T7, T10)<br>3. Addition of HR/Field Extension Officers to optimize the socialization, service and assistance of farmer cards (W3,W4,W5,W6,W8,W10,T2,T3 ,T4,T8,T9) |

Based on the SWOT diagram in Figure 2, it is stated that the chosen alternative strategy is the Strength-Opportunity (SO) strategy, which uses internal strengths to take advantage of external opportunities. This is a positive aggressive strategy, which is to attack full of initiative and planning by pursuing external opportunities by considering the strengths of the organization.

The Strength-Opportunity (SO) strategy based on the IFE and EFE SWOT interaction matrix in table 5 has the following policy strategies:

1. The government always provides a budget for infrastructure and supervision of subsidized fertilizer distribution
2. The innovation of making information media for implementing a website-based farmer card belonging to Kendal Regency
3. Addition of Human Resources / Field Extension Officers both contracts / civil servants within the Kendal Regency Agriculture and Food Service to serve the farmer card program well
4. Adding partners for socialization and KPL for the operation of distributing subsidized fertilizers.

Some of the SO strategies that have been formulated are not necessarily all implemented simultaneously, so it is necessary to prioritize if in their implementation they experience limited resource constraints. The determination of strategic priorities from several Strength-Opportunity (SO) policy strategies generated through SWOT analysis in this study was carried out using The Analytic Hierarchy Process (AHP).

### 4.2 Analytic Hierarchy Process (AHP) analysis
### a. Determination of Criteria

The following table shows the AHP analysis indicators.

**Table 6.** AHP Analysis Indicators

| Criteria | Strategy | Scale Measurement |
|---|---|---|
| Program | 1. The government always provides a budget for infrastructure and supervision of subsidized fertilizer distribution | Ratio |
| Budget | | Ratio |
| Procedure | 2. The innovation of making information media for implementing a website-based farmer card belonging to Kendal Regency<br>3. Addition of Human Resources / Field Extension Officers both contracts / civil servants within the Kendal Regency Agriculture and Food Service to serve the farmer card program well<br>4. Adding partners for socialization and KPL for the operation of distributing subsidized fertilizers. | Ratio |

### b. Hierarchy

The following are AHP analysis indicators

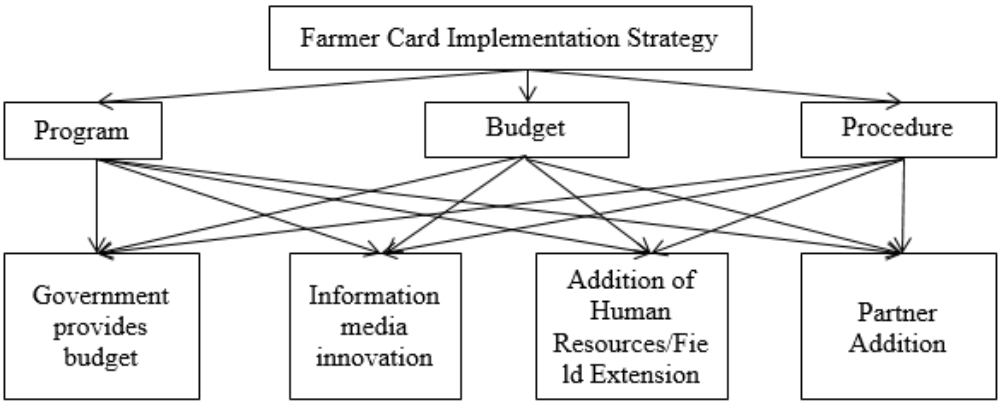



***Figure 3.*** *Indicators of AHP Analysis*

### c. Criteria Weighting

Following are the results of the weighting of the criteria by the respondents.

1. Question Weighting Part I

**Table 7.** Recap of Weighting Part 1

| Level | Criteria | Respondent | |
|---|---|---|---|
| | | 1 | 2 |
| 1 | Program – Budget | Program = 2 | Program = 2 |
| | Program – Procedure | Program = 5 | Program = 3 |
| | Budget – Procedure | Budget = 3 | Budget = 3 |

2. Question Weighting Part 2

**Table 8.** Recap of Weighting Part 2

| Level | Criteria | Respondent | |
|---|---|---|---|
| | | 1 | 2 |
| 2 | Government – Innovation | Government = 4 | Government = 3 |
| | Government – HR | Government = 3 | Government = 3 |
| | Government – Partner | Government = 4 | Government = 3 |
| | Innovation – HR | HR = 3 | HR = 2 |
| | Innovation – Partner | Innovation = 2 | Partner = 3 |
| | HR – Partner | HR = 3 | HR = 2 |

3. Question Weighting Part 3

**Table 9.** Recap of Weighting Part 3

| Level | Criteria | Respondent | |
|---|---|---|---|
| | | 1 | 2 |
| 2 | Government – Innovation | Government = 3 | Government = 3 |
| | Government – HR | Government = 3 | Government = 3 |
| | Government – Partner | Government = 4 | Government = 3 |
| | Innovation – HR | HR = 3 | HR = 3 |
| | Innovation – Partner | Innovation = 2 | Partner = 2 |
| | HR – Partner | HR = 3 | HR = 3 |

4. Question Weighting Part 4

**Table 10.** Recap of Weighting Section 4

| Level | Criteria | Respondent | |
|---|---|---|---|
| | | 1 | 2 |
| 2 | Government – Innovation | Government = 2 | Government = 3 |
| | Government – HR | Government = 3 | Government = 3 |
| | Government – Partner | Government = 3 | Government = 3 |
| | Innovation – HR | HR = 2 | HR = 2 |
| | Innovation – Partner | Partner = 2 | Partner = 2 |
| | HR – Partner | Partner = 2 | HR = 2 |

The results of the weighting of the informants were then processed using expert choice software version 11 with the following outputs:

**Table 11.** Recap Value of Consistency Ratio

| | Level 1 | Level 2 | | |
|---|---|---|---|---|
| | | Procedure | Budget | Procedure |
| CR | 0.02 | 0.03 | 0.05 | 0.08 |

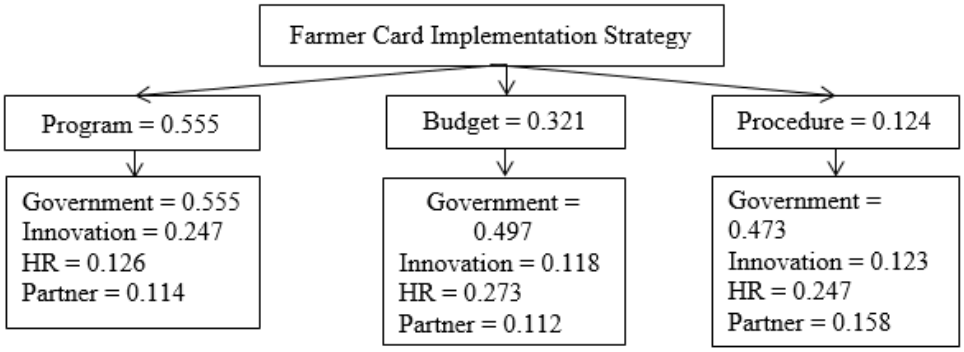



***Figure 4.*** *Recap of Weighting*

1) Criteria Weighting (Level 1)

According to the level of importance to the objectives of determining the priority of the farmer card program implementation strategy for the Program strategy criteria with the highest weight of (0.555), followed by the Budget strategy criteria with a weight of (0.321), and the procedure strategy criteria (0.124). With the weight value that is not far adrift between the Program and Budget strategies, it can be concluded that the resource choice strategy for the strategy of implementing the farmer card program in the future is Program - Budget. This is based on the consistency of the Government in making programs and budgets. The program that will be implemented always goes hand in hand with the availability of the budget.

The consistency of the global ratio on this criterion is 0.02. This means that in general the answers from the informants are quite consistent with each criterion in selecting the program strategy criteria as the main criteria in determining the priority of the farmer card program implementation strategy.

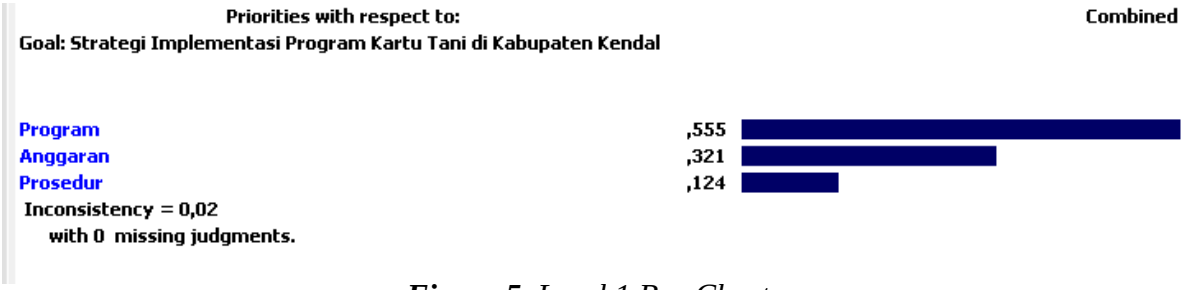



***Figure 5.*** *Level 1 Bar Chart*

2) Weighting of Alternatives (level 2)

The first criterion is the Program. Government with a weight (0.512), followed by HR (0.247), Partners (0.126) and Innovation (0.114). The government is the biggest weight in the program criteria. namely the Government always provides a budget for additional subsidies and adequate infrastructure. This needs to be done as an effort to fulfill the need for subsidized fertilizer, which every year there is always an increase in the number of farmers joining, competition in fertilizer prices to service officers who need good and adequate infrastructure.

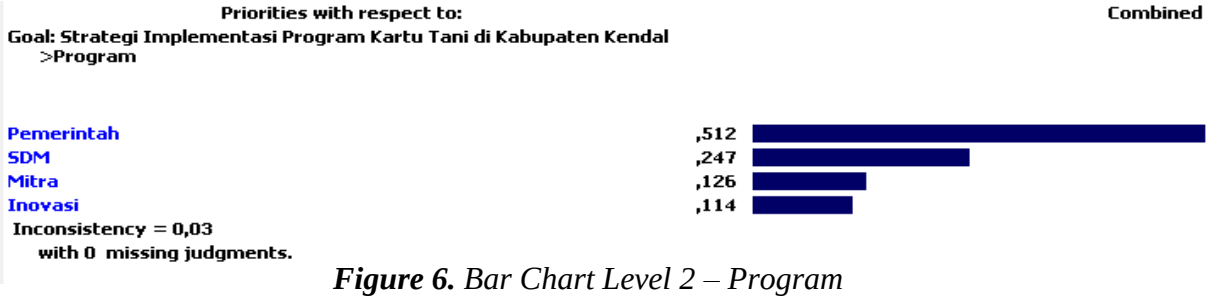



***Figure 6.*** *Bar Chart Level 2 – Program*

The second criterion is Budget, Government with a weight (0.497), followed by Human Resources (0.273), Innovation (0.118) and the smallest weighting is Partners (0.112). Resource persons have high enough confidence in the Government with this budget criteria, by providing a budget for additional human resources/field extension officers to innovate and establish partners in order to make the farmer card program a success.

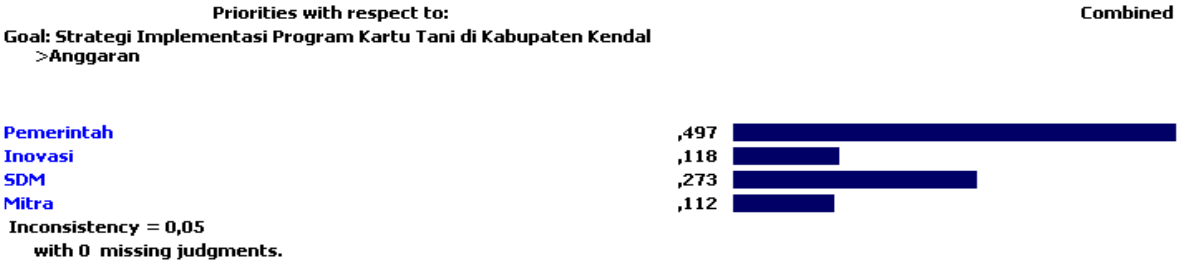



***Figure 7.*** *Bar Chart Level 2 – Budget*

The third criterion is the procedure of government still gets the highest weight (0.473), followed by HR (0.247), Partners (0.124) and the lowest weight is Innovation (0.123). Partners are the third weight that can be used in this procedure, especially the provision of a budget for partners that will help in the success of this card program.

With the procedure strategy, the Government remains the main priority with the highest weight, so in the procedure criteria, the informants believe that the Government is a priority that can be applied in the strategy of implementing the farmer card program in the future.

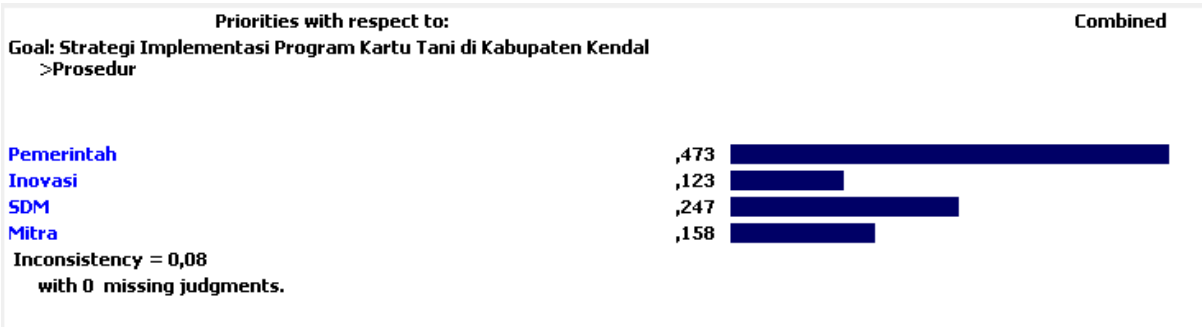



***Figure 8.*** *Level 2 Bar Chart – Procedure*

### 4.3 Farmer Card Program Implementation Strategy

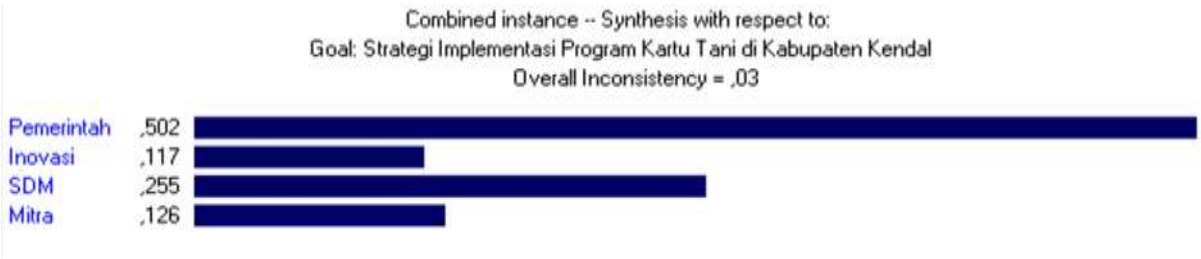



***Figure 9.*** *Bar chart Priority criteria and alternatives*

From Figure 9 above, it can be analyzed that the Program strategy is a priority criterion in carrying out alternative priorities, namely the Government always provides a budget for infrastructure and supervision of the distribution of subsidized fertilizers.

### 4.4 Multiple Regression

The following is the calculation of the multiple linear regression of Education, Age, Length of Business, Land area, Capital, Seeds, Fertilizers, Pesticides and Labor on Production, the following results can be obtained:

**Table 12.** Multiple Linear Regression Equation

**Coefficientsa**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| 1(Constant) | -.046 | 2.118 | | -.022 | .983 |
| Education | .993 | .304 | .296 | 3.262 | .002 |
| Age | .005 | .044 | .013 | .110 | .913 |
| Business Length | .031 | .034 | .118 | .905 | .368 |
| Land area | 2,040 | .637 | .285 | 3.205 | .002 |
| Capital | -7.728E-9 | .000 | -.025 | -.215 | .830 |
| Seed | .001 | .013 | .005 | .049 | .961 |
| Fertilizer | .050 | .050 | .182 | .835 | .046 |
| Pesticide | .379 | .103 | .392 | 3,683 | .000 |
| Labor | .019 | .008 | .230 | 2,319 | .023 |

**Production Equation = -0.046+0.993 Education + 0.005 Age + 0.031 Length of Business + 2.040 Land area -7.728 Capital + 0.001 Seed + 0.050 Fertilizer + 0.379 Pesticide + 0.019 Labor.**

From the multiple linear regression equation above, it shows that:

a. Education

Based on the results of the study showed that the significant level of 0.002 was smaller than the significance level used of 0.05. It means that the level of education has a significant effect on rice productivity. The regression coefficient of the education level

is 0.993, which means that for every 1 year addition to the respondent's education level, it will increase the productivity of rice farming by 0.993 Kg.

b. Age

Based on the results of the study showed that the significant level of 0.913 was greater than the significance level used of 0.05. It means that the age level has no significant effect on rice productivity. The regression coefficient of the age level is 0.005, which means that each additional 1 year of respondent's age will reduce the productivity of rice farming by 0.005 Kg.

c. Business Length

Based on the results of the study showed that the significance level of 0.368 was greater than the significance level used of 0.05. It means that the level of business duration has no significant effect on rice productivity. The regression coefficient of the level of length of business is 0.031, which means that each additional 1 year of the respondent's length of business will reduce the productivity of rice farming by 0.031 Kg.

d. Land area

Based on the results of the study showed that the significant level of 0.002 was smaller than the significance level used of 0.05. Means that the level of land area has a significant effect on rice productivity. The regression coefficient of the education level is 2.040, which means that for every 1 hectare addition to the respondent's land area, the productivity of rice farming will increase by 2.040 Kg.

e. Capital

Based on the results of the study showed that the significant level of 0.830 was greater than the significance level used of 0.05. It means that the level of capital has no significant effect on rice productivity. The regression coefficient of the education level is -7.728, which means that each additional capital level of the respondent will reduce the productivity of rice farming by -7.728 Kg.

f. Seed

Based on the results of the study showed that the significant level of 0.961 was greater than the significance level used of 0.05. It means that the seed level has no significant effect on rice productivity. The regression coefficient of the education level is 0.001 which means that each additional 1 Kg of the respondent's seed level will reduce the productivity of rice farming by 0.001 Kg.

g. Fertilizer

Based on the results of the study showed that the significant level of 0.046 was smaller than the significance level used of 0.05. It means that the level of fertilizer has a significant effect on rice productivity. The regression coefficient of the fertilizer level is 0.050, which means that every 1 Kg addition of the respondent's fertilizer level will increase the productivity of rice farming by 0.050 Kg.

h. Pesticide

Based on the results of the study showed that the significance level of 0.000 was smaller than the significance level used of 0.05. It means that the level of pesticides has a significant effect on rice productivity. The regression coefficient of the education level is 0.379, which means that each additional 1 liter of the respondent's pesticide level will increase the productivity of rice farming by 0.379 kg.

i. Labor

Based on the results of the study showed that the significant level of 0.023 was smaller than the significance level used of 0.05. Means that the level of labor has a significant effect on rice productivity. The regression coefficient of the education level is 0.019, which means that every additional 1 person at the respondent's workforce level will

increase the productivity of rice farming by 0.019 Kg. (2013) which states that labor has an effect on rice production.

## V. Conclusion

Based on the SWOT analysis, the implementation of the farmer card program in Kendal Regency is in the quadrant I position, which has an understanding of aggressive growth conditions. The AHP analysis shows that the priority strategy for implementing the farmer card program is the Government's strategy, namely that the Government always provides a budget for infrastructure and supervision of the distribution of subsidized fertilizers. Meanwhile, multiple regression analysis shows that the variables of education, land area, fertilizer, pesticides and labor have a significant effect on rice production in Kendal Regency. While the variables of age, length of business, capital and seeds have no significant effect on rice production in Kendal Regency

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