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Implementation of Subsidized Fertilizer Policy on Farmer Groups Based on the Regulation of the Minister of Agriculture Number 41 of 2021 in Percut Sei Tuan District, Deli Serdang Regency, North Sumatra Province, Indonesia

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Abstract:
Fertilizers have become an essential part of the success of agricultural commodity production. However, the price of subsidized fertilizers in the market cannot be stable if there is no third party between farmers and producers. The research was conducted in Percut Sei Tuan District, Deli Serdang Regency, North Sumatra Province. The research method is quantitative, using simple random sampling. The purpose of the research is to find out the implementation of the fertilizer subsidy policy in farmer groups based on the Minister of Agriculture Regulation No. 41 of 2021. Implementation of subsidized fertilizer purchases based on MOA No. 41 of 2021 in Percut Sei Tuan:

- *Source of subsidized fertilizer purchased from PT. Pupuk Indonesia,*
- *Filling RDKK,*
- *Participating in RDKK deliberations,*
- *Filling e-RDKK is an extension worker,*
- *LP2B land status, and*
- *There is KP3 supervision has been implemented well with a percentage of 100 percent each, and*
- *The implementation of farmer cards is 73.92 percent,*
- *The head of the farmer group who does not have a farmer card is 26.08 percent*

The effectiveness of MOA No. 41 of 2021 is based on 3 accuracies, namely the accuracy of price, type, and amount. They obtained a percentage of 22.10 percent, which means it is less effective.

Keywords: Fertilizer, policy, farmer

1. Introduction

Fertiliser is an essential input for agricultural production. With the growing popularity of modern agriculture, fertilizer consumption in developing countries continues to increase. Changes in fertilizer subsidy policy in Indonesia have occurred frequently to meet farmers' demand for quality fertilizer. Changes in fertilizer subsidy policy on fertilizer trade and distribution initially had an overall positive impact on fertilizer supply. However, the deregulation of fertilizer subsidy policies has largely failed to guarantee quality fertilizer in the required quantities and at the right time (Nizar et al., 2016).

The market price of subsidized fertilizers cannot be stable if there is no third party between farmers and producers. This is because farmers want lower fertilizer prices because of their modest incomes, while producers and retailers want higher subsidized fertilizer prices because they want greater profits. This is not possible in the market because it is contradictory. The market is unable to overcome this, so it requires the government to control the situation (Sembiring, 2021).

The Ministry of Agriculture (MOA) is considering revoking the policy of providing subsidized inorganic and organic fertilizer because the facts on the ground are that this policy creates more problems than benefits because of frequent misappropriation at various levels of distribution. Many farmers are asking for fertilizer subsidies to be removed, while on the other hand, the government considers that there are still many farmers who need fertilizer subsidies (Sembiring, 2021).

One of the regulations issued by the Ministry of Agriculture is Number 41 of 2021. The purpose of MOA No. 41/2021 is to increase the productivity of agricultural commodities in order to achieve national food security and

maintain price stabilization and fertilizer circulation at the farm level. In MOA No.771/KPTS/SR.320/M/12/2021 on the determination of the highest retail price (HET), the prices are as follows: Urea fertilizer at 2,250/Kg, SP-36 2,400/Kg, ZA 1,700/Kg, NPK 2,300/Kg, Organic Fertiliser 800/Kg, and Liquid Organic Fertiliser at 20,000/Litre.

2. Research Method

This research area was purposively selected in Percut Sei Tuan Sub-district, Deli Serdang Regency, North Sumatra Province. The research area was selected because Percut Sei Tuan Sub-district is the second largest center for subsidized fertilizer allocation in Deli Serdang Regency. The method used in this research is simple random sampling. The Slovin formula was used to determine the number of samples. Therefore, the sample in this study was 92 respondents.

The data collected consisted of primary and secondary data. Primary data were obtained from farmer groups that received subsidized fertilizers by reviewing the field and giving questionnaires that had been prepared previously, while secondary data were obtained from agencies or institutions such as the Agriculture Office and other parties related to this research. The results of the questionnaire provided by the researcher show that the implementation of policies in the research area is converted into percentages. The policy of effectiveness can be explained by the following formula (Marisa, 2011):

2.1. Price Appropriateness

$KH = \frac{nh}{N}$ x 100%

Description:
KH= Price Appropriateness (%).
Nh= Number of Respondents Who Bought subsidized fertilizers According to the Price Ceiling
N=Total Respondents

2.1.1. Total Accuracy
$KJ = \frac{nJ}{N}$ x 100%
Description:
KJ=Total Accuracy (%).
nJ=Respondents who received subsidized fertilizers as proposed

2.1.2. Type Accuracy
$Kj = \frac{nj}{N}$ x 100%
Keterangan:
Kj= Type Accuracy (%).
Nj= Respondents who received subsidized fertilizers as proposed

Effectiveness of MOA by using the following formula:

$$Efektivity = \frac{KH + Kj + KJ}{3}$$

No	Interval Persentase Efektivitas (%)	Criteria
1	0–20	Ineffective
2	21-40	less effective
3	41-60	Moderately effective
4	61–80	Effective
5	81-100	Very effective

Table 1: Criteria for Assessing Effectiveness

3. Results and Discussions

3.1. Implementation of MOA Number 41 of 2021 in Farmer Groups in 2022

In implementing MOA Number 41 of 2021 in Farmer Groups in 2022, 7 points will be explained as follows:

3.1.1. Implementation of the Source of Subsidized Fertilizer Purchased from PT Pupuk Indonesia to Farmer Groups in Percut Sei Tuan Sub-district Year 2022

Tarigan's research (2022) found that farmers who are members of farmer groups buy subsidized fertilizers sourced from PT Pupuk Indonesia. This is consistent with this study, where all farmer group leaders in Percut Sei Tuan Sub-district buy subsidized fertilizers sourced from PT Pupuk Indonesia with a percentage of 100 percent. This proves that the implementation of the instrument is very good in the research area.

3.1.2. Implementation of Farmer Cards in Farmer Groups in Percut Sei Tuan District in 2022

Gunawan's research (2020) found that in Gunung Kidul Regency, the number of farmers whose data have been inputted is 128 847 people, but in the implementation, no one has used a farmer card. In this study, the application of the farmer card instrument was quite good, where the head of the farmer group who had a farmer card was 73.92 percent, while 26.08 percent did not have a farmer card. The head of the farmer group did not have a farmer card because the farmer card had not yet been issued, but the head of the farmer group had taken care of the requirements to obtain a farmer card. In addition, the distribution of farmer cards in the research area was carried out at certain meetings, and not all farmer group leaders who applied for farmer cards immediately obtained their farmer cards.

3.1.3. Implementation of RDKK Filling in Farmer Groups in Percut Sei Tuan District in 2022

Mulia's research (2016) found that the preparation of RDKK for subsidized fertilizers was carried out by farmer groups in a deliberative manner led by the head of the farmer group and accompanied by agricultural extension workers. This is in accordance with this study because the head of the farmer group in Percut Sei Tuan Sub-district has filled in the RDKK with a percentage of 100 percent. This proves that the application of these instruments is very good in the research area.

3.1.4. Implementation of RDKK Deliberations in Farmer Groups in Percut Sei Tuan District in 2022

Putra's research (2020) found that at the RDKK preparation stage, the first step taken by the farmer group, in this case, each head of the farmer group in Secanggang District, collected data (deliberation) of farmers registered in the area of each farmer group. This is consistent with this study, where the head of the farmer group in Percut Sei Tuan Sub-district participated in the RDKK deliberation with a percentage of 100 percent. This proves that the application of this instrument is very good in the research area. The RDKK deliberation is conducted to prepare the RDKK, which is attended by PPLs, farmer group leaders, and farmer group members. In addition to compiling the farmer group's subsidized fertilizer needs, the meeting also recollected farmer group members where there were members whose land was leased to other farmers, there were members who died, and there were new members.

3.1.5. Implementation of e-RDKK Filling in Farmer Groups in Percut Sei Tuan District in 2022

Supriyadi (2020) stated that the food crops, horticulture, and plantation office (DTPHP) of Situbondo Regency on Friday, 22 February 2020, starting at 07.00 WIB gathered PPLs as e-RDKK data input officers. This is in accordance with this research, where the party that fills in the e-RDKK is the extension agent with a percentage of 100 percent. Apart from the extension agent, the party that collects the required data is the head of the farmer group, where the head of the farmer group often holds meetings with members to record fertilizer needs that will be input by the extension agent with electronic procedures. The reason for the extension workers filling in the e-RDKK is that the input data is in accordance with the RDKK, and there are farmer group leaders who do not understand the e-RDKK system.

3.1.6. Implementation of LP2B Land Status in Farmer Groups in Percut Sei Tuan District in 2022

Tarigan's research (2022) found that the land owned by farmers who are members of farmer groups is LP2B. This is in accordance with this study because the heads of farmer groups in Percut Sei Tuan Sub-district own land with LP2B status with a percentage of 100 percent. This proves that the application of the instrument is very good in the research area.

According to PPLs in the research area, there is a misuse of subsidized fertilizers, where subsidized fertilizers should be purchased for rice crops. However, the subsidized fertilizers are distributed to other commodities. This causes the productivity of the commodities on the proposed land to not be maximized, and the subsidized fertilizers are not well-targeted.

3.1.7. Implementation of Supervision on Farmer Groups in Percut Sei Tuan District in 2022

Mulia's research (2016) states that subsidized fertilizers are declared as supervised goods, so in its implementation, the government forms a body that supervises and oversees the distribution of subsidized fertilizers in their respective regions. In this case, the Regency government forms a group called TP3 (Fertiliser and Pesticide Supervisory Team), whose members consist of representatives of the industrial trade office, the agriculture office, and the economic section of the Jember Regency Government. In this study, all farmer group leaders in Percut Sei Tuan Sub-district stated that there was supervision by the government with a percentage of 100 percent. This proves that the application of these instruments is very good in the research area. In addition to the KP3, extension workers participate in monitoring if there is an allocation of subsidized fertilizers at official retailers.

3.2. Implementation of MOA Number 41 of 2021 in Farmer Groups in 2022

Analyzing the effectiveness of MOA No. 41 of 2021 on the Group is seen from three aspects:
- Price accuracy,
- Type accuracy, and
- Quantity accuracy

3.2.1. Price Accuracy

Table 2 shows that each village received subsidized fertilizer prices that were not in line with the price ceiling, with the price of Urea fertilizer increasing by Rp372.22/kg (16.54 percent) and NPK by Rp322.22/kg (14.01 percent).

No	Location	Lowest Retail Price		Purchase Price Received	
		Urea (Rp/Kg)	NPK (Rp/Kg)	Urea (Rp/Kg)	NPK (Rp/Kg)
1	Cinta Damai	2250	2300	2600	2600
2	Tanjung Rejo	2250	2300	2700	2700
3	Percut*	2250	2300	2600	2600
4	Kolam	2250	2300	2600	2600
5	Amplas	2250	2300	2600	2600
6	Pematang Lalang	2250	2300	2700	2700
7	Sei Rotan*	2250	2300	2600	2600
8	Cinta Rakyat*	2250	2300	2600	2600
9	Tanjung Selamat	225	2300	2600	2600
	Total	20250	20880	23600	23600
	Average	2250	2300	2622.22	2622.22

Table 2: Average HET and Purchase Price of Subsidized Fertilizers in Percut Sei Tuan District

Table 2 shows that of 92 respondents (N), no farmer group leader bought subsidized fertilizers in accordance with the price ceiling (nj). To find out the price accuracy, it can be explained as follows:

$KH = \frac{nh}{N}$ x 100%

$= \frac{0}{92}$ x 100%

$= 0\%$

The results of Ikhlas's research (2022) found that price accuracy in Jetak Kidul Village, Wonopinggo District, Pekalongan Regency obtained the results of 100 percent of farmers buying subsidized fertilizers in accordance with the HET, which means it is very effective, while in this study, researchers found price accuracy of 0 percent in Percut Sei Tuan District which means it is ineffective.

3.2.2. Type Accuracy

The accuracy of the type can be seen from the gap between the types of fertilizer that can be purchased and those proposed by the farmer group leader. Table 3 shows that respondents only received 2 types of subsidized fertilizers (urea and NPK), while farmer group leaders proposed 3 types of subsidized fertilizers (urea, NPK, and organic granules).

No	Location	Type of Subsidized Fertilizer Proposed by Respondents			Type of Fertilizer Received by Respondents		
		Urea (Orang)	NPK (Orang)	Organik Granul (Orang)	Urea (Orang)	NPK (Orang)	Organik Granul (Orang)
1	Cinta Damai	20	20	20	20	20	0
2	Tanjung Rejo	19	19	19	19	19	0
3	Percut*	10	10	10	10	10	0
4	Kolam	9	9	9	9	9	0
5	Amplas	8	8	8	8	8	0
6	Pematang Lalang	8	8	8	8	8	0
7	Sei Rotan*	7	7	7	7	7	0
8	Cinta Rakyat*	6	6	6	6	6	0
9	Tanjung Selamat	5	5	5	5	5	0
	Total	92	92	92	92	92	0

Table 3: Types of Subsidized Fertilizers Received in Percut Sei Tuan District

The total number of respondents (N) = 92 respondents, while the number of respondents who received the type of subsidized fertilizer as proposed (nj) can be calculated as follows:

$$nj = \frac{\text{Responden yang mengusulkan Urea + NPK + Organik Granul}}{3}$$

$$= \frac{92 + 92 + 0}{3}$$

nj = 61 Person

So to calculate the accuracy of the type, it can be seen as follows:

$KJ = \frac{nj}{N}$ x 100%

$= \frac{61}{92}$ x 100%

= 66.30%

Ramlayana's research (2020) showed that the types of fertilizers needed by farmers and those subsidized by the government were urea, ZA, SP-36, NPK, rainbow, phonska, and organic granules. Whereas, in this study, the subsidized fertilizers received by respondents were 2 types out of 3 types of proposals with a percentage of type accuracy of 66.30 percent.

3.2.3. Total Accuracy

Table 4 shows that the amount proposed by the respondents was different from the amount realized, but the amount realized and purchased by the farmer group leaders were the same. The amount of subsidized fertilizers realized from what the farmer group leaders proposed was urea (54.22 percent), NPK (51.52 percent), and organic granules (0 percent).

No	Location	Proposed RDKK (Kg)			Realized (Kg)			Quantity Purchased (Kg)		
		Urea	NPK	Organik Granul	Urea	NPK	Organik Granul	Urea	NPK	Organik Granul
1	Cinta Damai	7550	9060	15100	4000	4550	0	4000	4550	0
2	Tanjung Rejo	6075	7290	12150	3350	3750	0	3350	3750	0
3	Percut*	4750	5700	9500	2400	2900	0	2400	2900	0
4	Kolam	2000	2400	4000	1250	1300	0	1250	1300	0
5	Amplas	3650	4380	7300	1850	2200	0	1850	2200	0
6	Pematang Lalang	2425	2910	4850	1350	1500	0	1350	1500	0
7	Sei Rotan*	1625	1950	3250	1000	1050	0	1000	1050	0
8	Cinta Rakyat*	1675	2010	3350	950	1100	0	950	1100	0
9	Tanjung Selamat	1875	2250	3 750	1000	1 200	0	1000	1200	0
Subtotal		31625	37950	63250	17150	19550	0	17150	19550	0
Total		132 825			36 700			36 700		

Table 4: Allocation of Subsidized Fertilizers in Percut Sei Tuan Sub-district

Table 4 shows that no farmer group leader received subsidized fertilizers as proposed (nJ) out of a total of 92 respondents (N). Therefore, to find the accuracy of the number, it can be calculated as follows:

$$KJ = \frac{nJ}{N} \times 100\%$$
$$= \frac{0}{92} \times 100\%$$

= 0%

The results of Ikhlas's research (2022) found that the accuracy of the amount in Jetak Kidul Village, Wonopinggo District, Pekalongan Regency obtained an accuracy of 65 percent, which means it is quite effective. Meanwhile, this study found that the accuracy of the amount was 0 percent in Percut Sei Tuan Sub-district, which means that it was not effective. The reason for the ineffectiveness is that based on the RDKK proposal, the government can only realize 40 percent of the subsidized fertilizers. Therefore, the needs of the farmer group leaders are not met.

Based on the calculation of 3 accuracies above, the effectiveness of the MOA can be calculated as follows:

$$Efektivitas = \frac{KH + Kj + KJ}{3}$$
$$= \frac{0 + 66.30 + 0}{3} = \frac{66.30}{3}$$

= 22.10%

If the effectiveness percentage is from 21 to 40 percent, then the effectiveness is less effective (Riduwan, 2014). This is in accordance with this study, where the effectiveness of MOA No. 41 of 2021 based on 4 accuracies in Percut Sei Tuan Sub-district obtained a percentage of 22.10 percent, which means it is less effective. The causes of the ineffectiveness of the MOA are prices above the HET, the type of subsidized fertilizer that does not match the proposal, and the amount received does not match the proposal needed by the head of the farmer group.

4. Conclusion

The implementation of subsidized fertilizer purchases based on MOA No. 41 of 2021 in Percut Sei Tuan District:
- The source of subsidized fertilizer purchased from PT Pupuk Indonesia,
- Filling RDKK,

- Participating in RDKK deliberations,
- Filling e-RDKK is an extension worker,
- LP2B land status,
- There is KP3 supervision has been implemented well with a percentage of 100 percent each,
- The implementation of farmer cards is 73.92 percent, and
- The head of the farmer group who does not have a farmer card is 26.08 percent

The effectiveness of MOA No. 41 of 2021 is based on 3 accuracies, namely the accuracy of price, type, and amount. They obtained a percentage of 22.10 percent, which means it is less effective.

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