

## Implementation and Effectiveness of the Edward III Model Farmer Card in Megaluh Subdistrict, Jombang

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### ABSTRACT

The agricultural sector is one of the most dominant sectors in Indonesia. The abundance of natural resources makes Indonesia an agrarian country. One of them is the Farmer Card Programme. This study aims to analyse the implementation and effectiveness of the Farmer Card Programme in Megaluh Subdistrict, Jombang Regency, using Edward III's policy implementation model, which focuses on the dimensions of communication, resources, bureaucratic structure, and disposition. This study uses a qualitative approach with an exploratory case study design. Data was obtained through in-depth interviews with 18 informants consisting of Agricultural Service Officials, Field Agricultural Extension Workers, Fertiliser Distributors, Kiosk Operators, Farmers' Groups, and Farmers. The results of the study show that the implementation of regulations is still not optimal. The communication dimension is still not optimal in terms of information delivery and socialisation. The resource dimension reveals technical and human resource limitations. The bureaucratic structure dimension shows that coordination between actors is not yet synergistic. The disposition dimension is relatively supportive, but not all actors are responsive to farmers' problems in the field. Empirically, the communication and resource dimensions remain the dominant constraints that cause the suboptimal implementation of the Farmer Card Programme. The academic contribution of this research lies in the integration of Edward III's model with outcome indicators for implementation in the context of the Farmer Card Programme at the sub-district level. The practical contribution lies in providing operational recommendations for strengthening the optimisation of subsidised fertiliser distribution management based on improving communication and resource capacity.

### ARTICLE HISTORY

Received: 15-12-2025

Revised: 25-02-2026

Accepted: 10-03-2026

### KEYWORDS

Farmer Card Programme;  
Implementation;  
Subsidised Fertiliser.

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### INTRODUCTION

Given Indonesia's background as an agrarian country, agriculture is naturally one of the sectors that absorbs a large workforce (Santoso et al., 2020). The agricultural sector is one of the most dominant sectors in Indonesia because its abundant natural resources have made Indonesia an agrarian country with continuously advancing and developing technology (Basuki, 2019). Agriculture is the primary producer of food, as food is an important and essential human need (Harniawati et al., 2021). Development in the agricultural sector is projected to improve the welfare of farmers with the aim of increasing agricultural yields and farmer productivity (Wahid et al., 2021). Agricultural policy reform in this context is a comprehensive political-economic mechanism, whose

success is determined not only by its normative design but also by its operational implementation at the most technical level. One country that has maximised agriculture as an industrial potential is South Korea, with a focus on integration and rural agricultural resources (Yu et al., 2025).

The Farmer Card Programme is a programme developed based on principles and concepts for improving welfare, implemented by the government for farmers, one of which relates to the provision of fertiliser subsidies. Fertiliser is very important in agriculture because it enables agriculture to produce optimal output (Fahmi & Maria, 2020). Regulations on fertiliser subsidies through farmer cards are stipulated in Ministry of Agriculture Regulation No. 47 of 2017 concerning the Allocation and Maximum Retail Price of Subsidised Fertiliser for the Agricultural Sector for the 2018 Fiscal Year. For farmers, fertiliser is one of the most important components in agricultural activities (Sihite, 2021). The amount and type of fertiliser obtained by farmers is based on the size of the agricultural land, the commodities being grown, and the type of fertiliser based on the definitive plan for group needs, often referred to by the farming community as RDKK (Jorgi et al., 2019).

Regarding the implementation of public policy in the context of agricultural subsidies, Hill & Hupe (2021) explain that implementation is not merely a passive process in the policy cycle, but rather an arena for interaction between actors, policy interpretation, and resource negotiation at the operational level. This is in line with Howlett & Ramesh (2020), who explain that implementation is an integral part of the policy cycle and is greatly influenced by the configuration of regulatory subsystems and institutional capacity. The analysis of the implementation of the Farmer Card Programme should not be limited to a descriptive approach, but should be applied within a theoretical framework that can provide an understanding of the relationship between bureaucratic structure, resource components, policy communication and the disposition of implementers.

Fertiliser subsidy policies in the context of the digitalisation of the Farmer Card Programme have become a subject of academic interest. Based on research by Mufidah & Prabawati (2018) focusing on the distribution of subsidised fertiliser using farmer cards in Durung Bedug Village, Candi Sidoarjo District, it was found that the implementation of farmer cards has not been successful due to technical constraints. These obstacles include inactive EDC machines, a more complicated fertilizer collection process, and kiosk owners still using the old mechanism directly. Further research by Grestina et al. (2023), which focused on analysing the effectiveness of the farmer card programme in Karangjaya Village, Karangjaya District, Tasikmalaya, found that the implementation of the Farmer Card Programme was not running effectively because many farmers still did not have a comprehensive understanding of how to access fertiliser using the farmer card. In this case, it is understood that the main obstacles lie in ineffective policy

communication and limited administrative and technical resources at the sub-district level.

Another study by [Rahmawati et al. \(2023\)](#), entitled ‘The Effectiveness of Farmer Cards on the Distribution of Subsidised Fertiliser in Kawalu District, Tasikmalaya City,’ found that the mechanism for distributing subsidised fertiliser through Farmer Cards was still not timely. This lack of timeliness greatly affects the context of equity in subsidies provided to farmer communities as beneficiaries. The findings explain that there are still problems in the context of fertiliser availability and distribution supervision. This study focuses more on analysing the effectiveness of distribution results than analysing the implementation process.

In the context of aligned research in Jombang Regency, [Jitarunas et al. \(2024\)](#) focused on the context of implementing subsidised fertiliser distribution based on the I-Pubers application in Ceweng Village, Jombang Regency, which aimed to improve farmers' understanding and accelerate the digital distribution of subsidised fertiliser. In this context, the research does not discuss the implementation of policies in depth theoretically and the outcomes of policy effectiveness. In addition, research by [Makhtunin \(2025\)](#) evaluated the policy of subsidised fertiliser distribution in Jombang Regency. The results of the research are still very general in their discussion and do not relate to policy theory models and effectiveness based on empirical variables with a systematic approach.

Based on these sources, several relevant research gaps can be identified. First, research on the implementation and evaluation of the Farmer Card Programme in several regions already exists. However, there is still no explicit research that comprehensively discusses the implementation context and policy effectiveness within a single theoretical framework, specifically using Edward III's model. Second, there is still no research that simultaneously analyses the quality of policy implementation (process) affecting policy effectiveness (outcome), such as the equitable distribution of fertilisers, farmer satisfaction levels and perceptions of increased agricultural productivity. Implementation performance is highly relevant to policy outcomes. Thirdly, previous studies have not specifically examined the Megaluh sub-district in Jombang Regency. However, the local context has the potential to influence the dynamics of policy implementation. This is because village agriculture is key to overall collective economic improvement ([Kong et al., 2025](#)).

This context is important to understand because agriculture is a vital sector in Jombang Regency. As one of the food baskets in East Java, this region has a major responsibility in supporting provincial and even national food security. One example is Megaluh Subdistrict, an area in Jombang Regency dominated by small farmers who are highly dependent on subsidised fertilisers. In addition, there are varying levels of digital literacy and the dynamic shift from manual to digital distribution systems. Therefore, Megaluh Subdistrict in Jombang Regency serves as a relevant policy laboratory for

testing the Edward III Model in the context of the Farmer Card Programme. This study is expected to produce practical recommendations that can be applied to improve the effectiveness of subsidised fertiliser distribution in areas with complex socio-agricultural characteristics such as Megaluh Subdistrict (Yunus et al., 2025).

This study, entitled ‘Implementation and Effectiveness of the Farmer Card Programme Based on Edward III's Model (Locus: Megaluh Subdistrict, Jombang),’ was conducted to fill the gap in this context and enrich academic references. In terms of theoretical context, this study integrates the perspective of policy implementation with the operational framework of the Edward III Model, which focuses on four dimensions, namely communication, resources, disposition, and bureaucratic structure. Empirically, this study examines the relationship between the dimensions of policy implementation and policy effectiveness indicators (implementation outcomes), such as the impact and improvement of agricultural yields.

This research contributes in two contexts. First, it contributes academically by strengthening the analysis of policy implementation based on an explicit and integrative theoretical model in the context of the Farmer Card Programme policy. Second, the practical contribution is in the form of policy recommendations that focus on a systematic analysis of the implementation factors that influence the effectiveness of the Farmer Card Programme at the sub-district level. Thus, this research not only enriches the literature on public policy implementation, but also provides an evidence-based foundation and recommendations for optimising the mechanism for managing fertiliser subsidies in regions across Indonesia.

## **METHOD**

This study used a locus in Megaluh Subdistrict, Jombang Regency, East Java, which was conducted from September to October 2021. This study applied a qualitative research model, namely based on a case study approach and exploratory research. An exploratory case study design was chosen because the nature of this policy implementation requires a process, interpretation and operational dynamics at the local level (Hill & Hupe, 2021). This approach was also taken because it allows for in-depth analysis of policy phenomena when the boundaries between regulation and the environment of implementation are highly dynamic (Yin, 2018). In addition, the integration of Edward III's model in the analysis of the implementation of the Farmer Card Programme at the sub-district level is still relatively limited based on the gap research with previous studies. Edward III's model relates to several dimensions, namely communication, resources, disposition and bureaucratic structure (Edward, 1980). An exploratory approach is relevant when the issues being studied have not been analysed contextually and integratively in a particular context, thus providing an in-depth picture of the object in question with the locus of Megaluh Sub-district, Jombang Regency (Wahid et al., 2021).

The method of determining informants using purposive sampling was used to provide a detailed description of the phenomenon of farmer card implementation in the area analysed by the researcher. The informants selected consisted of policy implementers, fertiliser distributors and beneficiary farmers. The informants used by the researcher consisted of 18 people, including the Coordinator of Agricultural Extension Officers in Megaluh Subdistrict, Fertiliser Kiosk Owners, the Chair of the Farmers' Group Association, and the Chair of the Farmers' Group in each village in Megaluh Subdistrict. In qualitative methodology, the sample size is not determined based on statistical representation, but rather on the adequacy of information and data collection (Braun & Clarke, 2021). This principle focuses on depth rather than breadth, as the aim of the research is to gain a comprehensive understanding of programme implementation in a clearly defined context.

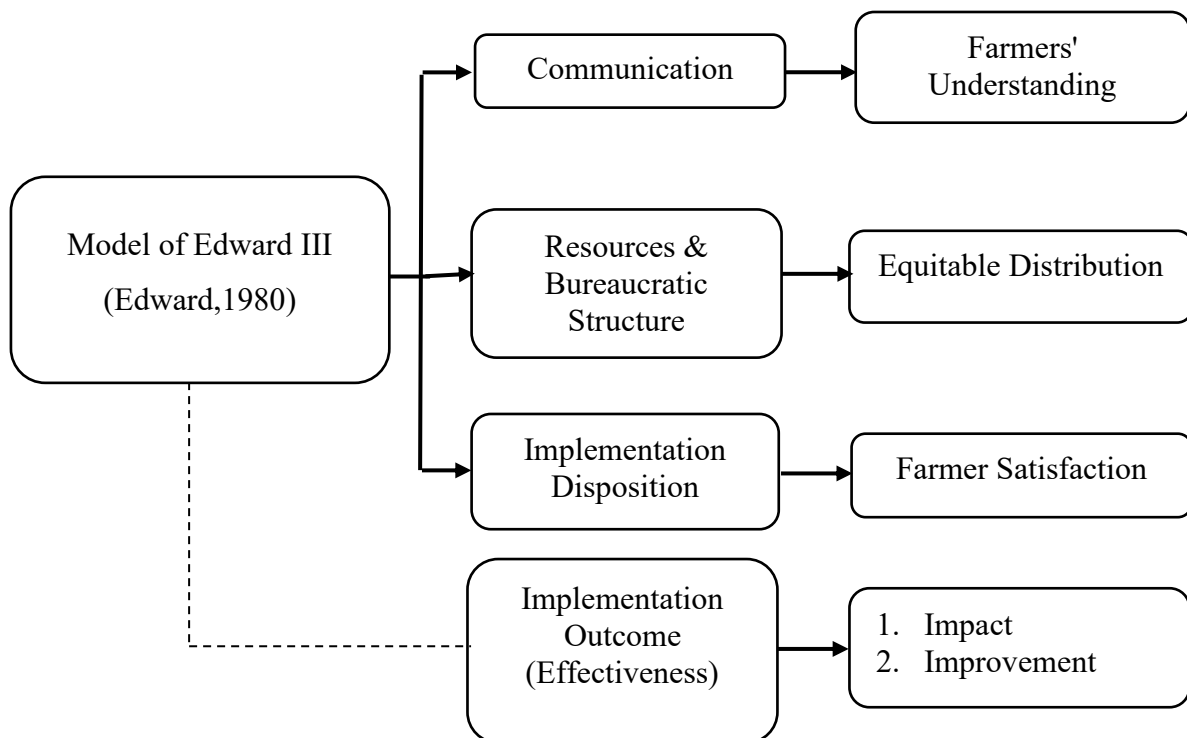
Data collection in this study was carried out using two types of data sources, namely primary data and secondary data. Primary data was obtained directly from the field through various techniques, including in-depth interviews, participatory and non-participatory observations, field notes, and the collection of relevant documents from the relevant authorities. In-depth interviews are a planned discussion process focused on a specific topic with the aim of obtaining rich and in-depth data (Wahid et al., 2021). Secondary data is collected from various relevant literature sources, including laws and regulations governing related programmes or policies, scientific journal articles, reference books, and mass media reports containing the latest information on the research topic. The use of secondary data aims to provide a strong theoretical basis and compare field findings with previous research results (Creswell & Creswell, 2017).

Validity and reliability in the context of qualitative research are achieved through the concepts of credibility, transferability, dependability, and conformability. Credibility is very important considering that the data obtained is sourced from the experiences and interpretations of policy actors (Hill & Hupe, 2021). Therefore, this context of credibility is maintained through checking, extended involvement in the field, and triangulation of sources, methods, and primary and secondary data. Transferability is achieved through the presentation of detailed contextual descriptions of regional characteristics and policy implementation structures. Dependability and confirmability are maintained through structured documentation of the research mechanisms, namely the recording of analytical decisions and researcher reflections. This approach is very much in line with the principle of scientific accountability in contemporary regulatory research mechanisms (Howlett & Ramest, 2020).

This study utilises content analysis techniques. Content analysis enables researchers to identify patterns, themes, and meanings contained within data, both textual and visual, thereby allowing for the formulation of valid and scientifically accountable conclusions (Krippendorff, 2018). The analysis process begins with verbatim transcription of interviews to maintain data integrity. The next stage is open coding, which involves

assigning initial codes to units of meaning that are relevant to the research focus. Next is axial coding, which involves grouping codes into thematic categories according to Edward III's Model Variables (communication, resources, disposition and bureaucratic structure). The final stage is selective coding, which involves integrating thematic categories into an analytical narrative that focuses on explaining the relationship between the quality of implementation and the effectiveness of policies.

Triangulation was carried out in three mechanisms. First, source triangulation, which focused on comparing information between policy actors to analyse the consistency and differences in their perspectives. Second, method triangulation, which combined in-depth interviews, field observations and analysis of policy documents such as e-RDKK and related reports. Third, triangulation of primary and secondary data is used to verify empirical findings. This contextual approach is very important because it can obtain cross-confirmation with official documents and existing data. The following is the operationalisation of the concept of 'Implementation and Effectiveness of the Farmer Card Programme Based on the Edward III Model (Locus of Megaluh Sub-district, Jombang)'.



**Figure 1.** Operationalisation of the Concept of Implementation and Effectiveness of the Farmer Card Programme Based on Edward III's Model (Locus: Megaluh Subdistrict, Jombang).

*Source: Researcher processed (2026)*

**RESULTS AND DISCUSSION**

**Implementation of the Farmer Card Programme Based on the Edward III Model**

**1. Farmers' understanding of farmer cards (Communication Dimension)**

The farmer card programme in Jombang in particular has been running since 2017. This programme was conceived to address the issues of subsidies and fertiliser distribution to farmers. The Directorate General of Agricultural Infrastructure and Facilities, on the one hand, shows the government's support for farmers to meet the '6 principles' in crop cultivation, namely through the right amount, type, time, place, quality, and price (Gunawan & Pasaribu, 2020). The use of chemical fertilisers by farmers is crucial, as fertilisers are one of the key factors in agricultural quality. The local government of Megaluh sub-district has made efforts to implement this programme appropriately. Farmers in the Megaluh sub-district have also been given information about the ins and outs of this farmer card programme. We have conducted interviews with farmers at various levels, and the following is an overview of the level of understanding among farmers in the Megaluh sub-district:

**Table 1.** Farmers' Level of Understanding

Age Range	Level of Understanding
38–43 years old	2 respondents had a high level of understanding. 1 respondent had a low level of understanding.
44-49 years old	2 respondents had a low level of understanding. 1 respondent had a high level of understanding.
50-55 years old	3 respondents had a high level of understanding. 3 respondents had a moderate level of understanding. 1 respondent had a low level of understanding.
56-61 years old	2 respondents had a low level of understanding.
> 62 years old	3 respondents had a low level of understanding.

*Source: Primary data processed (2021)*

Based on the Table 1 above, it can be understood that farmers' understanding of the Farmer Card Programme is still low. Farmers, especially those who are members of the Farmers' Group Association, still need further understanding regarding the use and optimisation of the Farmer Card. Empirically, the policy communication process in Megaluh Subdistrict, Jombang Regency, has been implemented through farmer group socialisation activities, field extension, and coordination mechanisms between the Agriculture Office liaison and the Official Fertiliser Kiosks in each village in Megaluh Subdistrict. However, the intensity and consistency of communication has not been maximised for each Village Farmer Group.

Informants in this study also explained that information regarding changes in fertiliser quotas, technical procedures for card transactions and RDKK data updates was not always obtained simultaneously by every individual in the Farmer Groups in each village in Megaluh Subdistrict. From the perspective of contemporary policy implementation, communication is not only understood in the context of one-way information transmission, but as an interactive mechanism in forming a comprehensive (collective) understanding of the policies that are being implemented. Problems arise when messages from policies are not translated adaptively with relevance to the existing context, causing a gap between the substance of the policy and its actual implementation in the field.

Based on the reality in Megaluh Subdistrict, it appears that some farmers still rely solely on the interpretation and assistance of Field Agricultural Extension Officers (PPL) in understanding the technical mechanisms for using the cards. This dependence suggests that policy communication has not yet fully developed the independent cognitive components of the beneficiaries. The success of policy implementation is greatly influenced by how local actors can apply the policy in practice in the field. Thus, the communication mechanism in the context of the beneficiary community in Megaluh Subdistrict is already in place, but it is still not optimal in building comprehensive and participatory understanding.

## **2. Equitable Distribution of Fertiliser in the Farmer Card Programme (Resource & Bureaucratic Structure Dimension)**

Equitable distribution is an effort made to provide justice and welfare to all levels of Indonesian society. This distribution is very vulnerable to fraud, especially in the distribution of subsidised fertiliser, which is sold openly and can lead to price fluctuations and misallocation (Fahmi, & Maria, 2020). Equitable distribution in this case relates to the distribution of fertiliser under the Farmer Card Programme. Data was collected from informants through interviews with the aim of obtaining more accurate and detailed data. The process of distributing subsidised fertiliser must go through various relationships with relevant institutions that play a major role in distributing subsidised fertiliser to the farming community. Examples of these relevant institutions are government agencies, kiosk owners, and banks. The distribution of subsidised fertiliser should have a facilitator as a supervisor so that various forms of irregularities can be avoided. The government is the party that has the authority to encourage the proper use of the Farmer Card, in terms of providing subsidised fertiliser and seeds.

Based on the results of research conducted by researchers through informants, namely the heads of the Farmers' Group Association and the heads of the Farmers' Groups in each hamlet, regarding the implementation of the Farmer Card Programme policy. The discussion analysed by the researchers related to the distribution of the Farmer Card Programme in Megaluh Subdistrict, Jombang Regency. The researchers took indicators

that were the subject of discussion on the distribution of subsidised fertiliser, namely the indicator of the amount of fertiliser distributed to the farming community, considering that the appropriate amount of fertiliser would affect the equitable distribution of the Farmer Card Programme. In order to gain an understanding from the informants, the researcher divided them based on their age and economic status. The criteria were middle-aged adults aged 30-50 years and older adults aged 51-75 years. The next division was based on economic status, namely low, middle, and high categories.

**Table 2.** Equal distribution of subsidised fertiliser

Middle-aged	Low Economy	The source replied that the amount of fertiliser distributed was insufficient, the timing was appropriate, and the clarity of the farmer cards was still very poor.
	Moderate Economy	The source replied that the amount of fertiliser distributed was adequate, the timing of distribution was fairly accurate, and the clarity of the farmer cards was still lacking.
	High economy	The source replied that the amount of fertiliser distributed was adequate, the timing was appropriate, and the clarity of the farmer cards was still very poor.
Late adulthood	Low Economy	The source replied that the amount of agricultural fertiliser distributed was insufficient, the timing was inappropriate, and the clarity of the farmer cards was lacking.
	Moderate Economy	The source replied that the amount of fertiliser distributed was insufficient, the timing was appropriate, and the clarity of the farmer cards was still lacking.
	High Economy	The source replied that the amount of fertiliser distributed was adequate, the timing was appropriate, and the clarity of the farmer cards was still lacking.

*Source: Primary data processed (2021)*

Based on the [Table 2](#), there is an explanation regarding the context of the amount of fertiliser and the clarity of the farmer card, which is still not fully implemented. In this case, it is very relevant to the dimension of resources, in the context of technical aspects (EDC devices, internet networks, farmer cards and fertiliser availability), the context of human resources (extension workers and kiosk operators) and other administrative support. The results of the study show that the limitations of farmer cards and fertilizer availability are the most common technical obstacles in the field. In addition, the limited number of agricultural extension workers compared to the number of farmer groups means that the intensity of assistance is still not optimal in each village. Based on research by [Sari & Nawangsari \(2024\)](#), it is explained that the mechanism of responsibility and programme planning, mainly in the policy process mechanism implemented by

government officials in each village, from decision-making to activity evaluation, must involve every village community, especially as beneficiaries. Therefore, in the context of resources, the resource dimension is not yet fully proportional to policy implementation.

The bureaucratic structure involved in the implementation of the Farmer Card Programme includes several stakeholders, namely the Department of Agriculture, Sub-district Agricultural Extension Officers, Fertiliser Distributors, Official Kiosks and Farmer Groups. The study found that the coordination process is still not optimal and integrated. This is most fundamental in the context of data renewal and fertiliser quota adjustments. Policy governance that indicates institutional fragmentation has the potential to hinder the continuity of policy implementation. Therefore, based on the research findings, there is still a context in which fertilisers are distributed in quantities that do not match the specified amounts. Overall, the implementation is categorised as structural, but it is still not fully optimal in terms of communication and resources.

### 3. Farmer Satisfaction Level (Implementation Disposition Dimension)

The disposition of implementers relates to their attitudes, commitment and orientation towards the context of policy objectives. Policy studies explain that the attitudes of implementers are a very important factor in determining the success of policies and the satisfaction of beneficiaries. In this case, the disposition of implementers is closely related to the level of satisfaction of farmers as beneficiaries of the Farmer Card Programme.

Farmers' responses to the Farmer Card Programme are the most important aspect to analyse in this study, because the success of a programme must be based on the community receiving the programme or service (Basuki, 2019). The researchers divided the responses of the farming community in Megaluh Subdistrict based on the age of each farmer. Based on age, there were two categories: middle-aged adults aged 30–50 years and older adults aged 51–75 years.

**Table 3.** Farmers' Satisfaction Levels with the Farmer Card Programme

Middle-aged	The level of satisfaction among middle-aged farmers regarding the Farmer Card Programme remains low. This is because, of the thirteen villages in Megaluh Subdistrict, only two villages have implemented the programme. In addition, the Department of Agriculture has not yet optimised its socialisation and supervision of the Farmer Card Programme.
Late adulthood	The level of satisfaction with the Farmer Card Programme is very low. Farmers understand the programme and how it works. All farmers want fertiliser subsidies to be provided without the need for a Farmer Card, because the Farmer Card Programme is confusing and does not reflect reality in the sense that subsidies are still insufficient.

*Source: Primary data processed (2021)*

Research findings on farmers' satisfaction levels with the Farmer Card Programme reveal differences in perception between middle-aged and older farmers. Middle-aged farmers generally have low satisfaction levels with the programme. This low satisfaction is due to uneven implementation, with only two of the thirteen villages in Megaluh Subdistrict fully implementing the Farmer Card Programme. Another contributing factor is the suboptimal socialisation and supervision by the local Agriculture Office, resulting in most farmers not fully understanding the objectives, benefits, and procedures for using the Farmer Card (Candra et al., 2025).

Meanwhile, the level of satisfaction among older farmers tends to be even lower. Although this group understands the concept and mechanism of the Farmer Card Programme, they consider its implementation to be ineffective. Many farmers argue that the process of distributing subsidised fertiliser through the Farmer Card has actually caused confusion, mainly because the actual implementation does not comply with the applicable regulations. Some farmers state that the subsidised fertiliser quota they receive is still insufficient compared to their actual needs, so they do not fully benefit from the programme (Nababan & Rangkuti, 2024).

These findings are in line with previous research stating that the success of an agricultural assistance programme is greatly influenced by the quality of implementation in the field, including the completeness of infrastructure, the skills of officers, and the clarity of information provided to beneficiaries (Shobry, 2017). This is very much at odds with the meaning of existing public service mechanisms, which are intended to promote the welfare of the community. Sari & Nawangsari (2024) provide an understanding that the focus on community welfare through accurate implementation will be directly proportional to the optimal application of public services. Therefore, improving the effectiveness of socialisation, improving distribution mechanisms, and stricter supervision are necessary to ensure that the Farmer Card Programme runs optimally and truly helps farmers in accordance with its original objectives.

Thus, variations in farmers' dispositions are closely related to their perception of service quality. Farmers who receive active assistance show higher levels of satisfaction than those who have minimal interaction with implementers. The activities in Megaluh Subdistrict, Jombang Regency, in terms of Field Extension Officers (PPL) as implementers from the Agriculture Office are still limited in terms of human resources. Therefore, in each village, it is sometimes still not possible to obtain massive and full assistance and understanding of the Farmer Card Program. Specific activities need to be evaluated to achieve the implementation of the programme for the farming community in Megaluh Subdistrict, Jombang Regency. Based on the available data, in terms of administrative and implementation dimensions, the programme has been implemented, but its application is still not optimal.

## Outcome of Implementation (Effectiveness) of the Farmer Card Programme

### 1. The Impact of Farmer Cards on Agriculture in Megaluh Subdistrict

The Farmer Card Programme has had an interrelated impact in its implementation in accordance with the mechanisms that have been implemented in Megaluh Subdistrict. Based on interviews with each of the heads of the Farmers' Groups, it was found that the implementation of the Farmer Card Programme has had an impact. The researchers divided these impacts into two categories: positive and negative. The Farmer Card Programme has had a positive impact on the community in Megaluh Subdistrict. First, fertiliser is distributed directly to farmers in accordance with the data contained in the Electronic System for Definitive Group Requirements (e-RDKK). The Farmer Card Programme ensures that fertiliser distribution is targeted accurately, and the card format minimises fertiliser leakage. The quotas targeted at farmers are accurate, for example, NPK, Urea, ZA, and Phonska fertilisers arrive in full and kiosk owners cannot cheat. Second, the cost of purchasing fertiliser is lower for farmers. If the price of non-subsidised fertiliser is much more expensive for the same quality, farmers will certainly feel helped by the Farmer Card Programme in the form of subsidised fertiliser. The following are the Maximum Retail Prices (MRP) for the sale of subsidised fertilisers in accordance with Ministry of Agriculture Regulation No. 49 of 2020.

**Table 4.** Maximum Retail Price (MRP)

TYPES OF FERTILISER	PRICE (Rp/Kg/Liter)
Urea	2.250
SP36	2.400
ZA	1.700
NPK	2.300
Special NPK Formula	3.300
Organic Granules	800
Liquid Organic	20.000

Source: Regulation of the Minister of Agriculture No. 49 of 2020

Thirdly, farmers can use the Farmer Card not only to finance their farming businesses but also for investment purposes (saving). In addition, it can be used as a means of digitalisation in agricultural practices. The farming community can gain a better understanding of technological developments and advances. Of course, with the Farmer Card Programme, the farming community and kiosk owners will be more organised in terms of the distribution of fertiliser subsidies. Farmers who hold the Farmer Card and

are registered in the e-RDKK system will be pleased, as they will be assisted with agricultural maintenance costs through government fertiliser subsidies.

The negative impacts observed by researchers regarding the use of the Farmer Card Programme are as follows. First, many kiosks are unable to provide services using the Farmer Card mechanism. Kiosk owners are also burdened with having to weigh and measure fertilisers again. A lack of understanding regarding the use of electronic data capture (EDC) means that kiosks unfamiliar with the technology prefer cash payments. This problem is due to the lack of socialisation carried out among the farming community, especially kiosk owners, regarding the use of the Farmer Card and EDC. Second, farmers who own rice fields sometimes do not receive a farmer card. In addition, farmers who have a Farmer Card are sometimes not registered in the e-RDKK or vice versa. This results in the use of the Farmer Card for the farming community being very wasteful and of little benefit. Farmers basically do not want to be burdened with a multi-layered mechanism; they only want to come to the kiosk, hand over the money, and receive subsidised fertiliser.

Thirdly, limited access to reliable internet is influenced by location, namely in villages. The problem of poor signal in villages means that sometimes there are five farmers waiting in line for a single transaction, which takes a very long time. As a result, many do not receive prompt service from kiosk owners. In this case, the three problems are closely related to the relevance of policies that are not in line with practices in the field, especially in the Megaluh District of Jombang Regency. Similar research explains that the main regulatory barriers are skill gaps, limited access to comprehensive government financing, and the lack of optimal technical support in each region (Aditya & Gumilar, 2025).

## **2. Improvements in Agriculture: The Farmer Card Programme**

The improvement of agriculture through the Farmer Card Programme in Megaluh Subdistrict, Jombang Regency, is still considered suboptimal. Although the government initiated this programme with the aim of organising the distribution system for subsidised fertiliser to be more targeted and transparent, the reality on the ground shows that farmers have not yet felt any significant benefits. Based on the results of a study involving the Chair of the Farmers Group Association (Gapoktan) in the area, the majority of respondents said that this programme has not contributed significantly to increasing agricultural productivity. In fact, most of them said that there was no noticeable difference between the state of agriculture before and after the programme was implemented.

The Gapoktan chairmen revealed that the new mechanism actually adds to the administrative burden on farmers. The system, which requires the use of cards as a condition for obtaining subsidised fertiliser, is considered inappropriate, especially as it is accompanied by restrictions on the quota of fertiliser provided. These restrictions have a direct impact on meeting the nutritional needs of crops, with many farmers not receiving

the recommended amount of fertiliser. This has resulted in a decline in crop yields, both in terms of quality and quantity. The situation is further exacerbated by delays in fertiliser distribution. The distribution schedule set by the government often does not align with the planting times of farmers. As a result, farmers are forced to plant without fertiliser or wait until fertiliser is available, which risks disrupting the planting cycle and reducing land productivity.

The government's hope that technology could facilitate data management and subsidy distribution through the Farmer Card did not go smoothly in Megaluh. Most farmers were not familiar with technology-based systems and found the administrative process difficult. Card activation, data verification, and fertiliser collection through electronic procedures were often confusing, especially for those with low digital literacy. Many farmers rely on others to help them with these processes, so the programme's goal of providing convenience has instead become an obstacle. Another problem that has been identified is the uneven distribution of Farmer Cards. For some farmers, using the card has actually caused them to suffer losses because they receive fewer fertiliser quotas, forcing them to buy non-subsidised fertiliser, which is much more expensive.

This situation has led most farmers to reduce the amount of fertiliser they use when subsidised fertiliser is in short supply. This step has a direct impact on declining crop yields. Although there is the option of purchasing non-subsidised fertiliser, the high price makes farmers reluctant to take the risk because they are concerned that it will not be proportional to the profits from selling their crops. As a result, the existence of the Farmer Card does not show a clear relationship with increased agricultural production in Megaluh. Many farmers believe that even without the card, fertiliser subsidies can still be obtained, so the benefits of the programme are considered minimal.

### **Dominant Implementation Factors Affecting Policy Effectiveness**

Based on observations, this suboptimality is caused by several main factors. First, infrastructure and human resources are not yet ready to support the maximum implementation of the programme. In some villages, internet access is still limited, farmers have not received adequate training, and programme socialisation has not been carried out comprehensively. Second, the distribution of subsidised fertiliser through the Farmer Card mechanism is often not timely, disrupting the planned planting schedule. Third, there is a mismatch between the policies set by the government and the real needs of farmers in the field. The determination of fertiliser quotas based on administrative data often ignores variations in land requirements, crop types, and different seasonal conditions.

Fourth, farmer participation in the programme planning and evaluation process remains minimal. The lack of two-way communication has resulted in policies that are unresponsive to the constraints they face. This situation has led to scepticism among farmers towards the programme. Many feel that the programme is merely a new

procedure that limits their flexibility in managing their farms. [Winoto et al. \(2025\)](#) explain that the success of a programme is closely related to community participation. In fact, the initial objectives of this programme are very good, namely to ensure that fertiliser subsidies reach their target and to avoid distribution fraud. However, without adequate infrastructure support, sufficient digital literacy, and policy adjustments to reflect the reality on the ground, these objectives are difficult to achieve.

Based on cross-dimensional analysis, this study found that communication substance and resources were the most dominant factors influencing the effectiveness of the Farmer Card Programme policy implemented in Megaluh Subdistrict, Jombang Regency. Suboptimal communication had a significant impact on farmers' understanding of the policy mechanism. In addition, resource constraints greatly affected the success and suitability of implementation in the field, both in terms of technical resources and human resources. In the modern policy effectiveness approach, great emphasis is placed on the importance of contribution analysis in identifying dominant factors in the context of policy causality. In this context, communication and resource constraints have the most significant contribution to the variation in implementation outcomes in the field.

The dimensions of disposition and bureaucratic structure remain influential; however, in the context of implementation in Megaluh Sub-district, their impact is relatively moderating when compared to the core determinants. Accordingly, it can be concluded that the effectiveness of the Kartu Tani Programme in Megaluh Sub-district is the result of a complex interaction between policy design and policy implementation, with resources and communication serving as the primary and decisive factors in determining the success of efforts to enhance agricultural productivity in Megaluh Sub-district, Jombang Regency.

## CONCLUSION

Based on the research findings, three main conclusions can be drawn. First, regarding policy implementation, the Kartu Tani Programme in Megaluh Sub-district has been implemented administratively and structurally, but it has not yet reached an optimal level when viewed from the dimensions of communication, resources, bureaucratic structure, and implementers' disposition. Communication remains inconsistent, particularly in the socialisation and dissemination of information to farmers, which affects understanding of card use and fertiliser redemption procedures. Resource limitations are also evident in supporting infrastructure and uneven human resource capacity at the field level, especially in fertiliser distribution. In terms of bureaucratic structure, coordination among implementing institutions has not been fully integrated, particularly in updating farmer data and adjusting fertiliser quotas. The disposition of implementers, including commitment and responsiveness, also influences farmers' perceptions of the programme. Second, in the outcome context, the programme has contributed to improving transparency and targeting accuracy in subsidised fertiliser distribution. The digital

system helps reduce irregular distribution practices and strengthens transaction accountability. However, effectiveness in achieving equitable distribution is still constrained by technical and administrative challenges that delay access for some farmers. The impact on agricultural production is conditional: farmers who receive fertiliser on time and in appropriate quantities tend to experience increased productivity, while delays in distribution can disrupt planting cycles and reduce production outcomes. Third, the dominant factors influencing policy effectiveness are communication and resources. Limited communication reduces farmers' understanding of the programme, while technical and human resource constraints affect the smoothness of fertiliser distribution. Although bureaucratic structure and implementers' disposition remain influential, in this context they function more as supporting factors. Therefore, several policy implications can be proposed, including strengthening continuous policy communication, improving technical and human resource capacity, reinforcing implementer accountability through evaluation mechanisms, and enhancing coordination among institutions within the Megaluh Sub-district Government of Jombang Regency to ensure more integrated programme implementation.

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