



# Efforts to Encourage Development of Sustainable Modern Agriculture Through Empowerment of Farmer Group

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## ABSTRACTS

Modern agriculture activities by intensively cultivating land and the massive use of fertilizer and pesticide have been shown to significantly increase agricultural productivity. However, modern agricultural systems have a serious impact on environmental damage, so it is necessary to develop modern agricultural systems that are environmentally sound and sustainable. This agricultural system can be successful if it is supported by all stakeholders, especially the Farmer Groups as a forum for farmers in their agricultural activities. The powerlessness of farmer groups in managing their members and their farms can be the cause of the failure of sustainable development of modern agriculture. This study aims to describe and analyze efforts to encourage the development of a modern sustainable agricultural system through the empowerment of farmer groups. This research was conducted with a qualitative approach based on literature studies from several journals and the results of previous research. The study results indicate that empowerment of farmer groups is the right way to increase the participation of farmer communities in the development of sustainable modern agriculture. The empowerment process carried out with the awareness, capacity and empowerment of farmer groups can increase awareness, ability, expertise and strength to take advantage of their potential. In the empowerment activities, it is necessary to empower actors from local government, community leaders and farmer group leaders who can act as motors and motivators. In addition, it is necessary to anticipate the inhibiting factors and the supporting factors that can encourage farmer group empowerment activities.

**Key words :** empowerment, farmer group, sustainable agriculture

## 1. INTRODUCTION

The government's efforts to achieve the target of food self-sufficiency have not been successful so far. Some food commodities such as rice and sugar still need additional imports to meet domestic needs. The failure to achieve food self-sufficiency has prompted many parties to raise the idea of the need to further promote the application of modern systems in agricultural development (Ali, 2014). The idea was based on concern over the low use of modern technology in agricultural development in Indonesia. This is reflected in the statement from the Minister of Agriculture at the Launching of Modern Horticultural Mechanization Technology Innovation and the Awarding of Agroinnovators at the Center for Agricultural Mechanization Development, Serpong, South Tangerang City, Banten, August 24, 2017. He stated that agricultural mechanization is an important component for modern agriculture in achieving its targets. sustainable food self-sufficiency (Antaranews.com. Thursday, 24 August 2017). The Indonesian



government strives to continuously increase rice production in order to meet all rice needs from domestic production. Efforts to increase production are carried out with an extensification program through the expansion of rice fields outside Java and intensification through increasing crop productivity. However, in the last 5 years rice productivity has not increased yet, but even tends to decrease (Anam, K., et al, 2021).

At the beginning of the application of modern technology in agriculture in the 1970s, better known as the green revolution, it was proven to have been able to significantly increase land productivity. National rice production increased by 300% compared to the previous decade. Even in the New Order era in the 1980s, Indonesia had achieved food self-sufficiency with a large production volume of 27 million tons and a consumption volume of 25 million tons, so that there was a domestic rice surplus of 2 million tons (Sugianto, 2021).

The success of the use of modern technology in increasing agricultural production is encouraging news, although in reality the application of modern technology also leaves a negative impact in the form of a decrease in environmental quality and biodiversity (IRRI, 2004). Changes in agricultural technology have caused natural plant processes that initially only used native nutrients from the soil to be replaced by a process of accelerating growth and production through the use of fertilizers, pesticides, and synthetic varieties (Purwanti et al., 2021). The use of synthetic chemical inputs in the long term can cause degradation of land, water and environmental ecosystems. The implementation of a modern sustainable agricultural system is a demand that cannot be avoided, in line with the development principles of the Sustainability Development Goals (SDGs) proclaimed by the United Nations in 2015.

However, the implementation of sustainable modern agriculture programs has not run optimally due to technical, economic and social obstacles. The involvement of farmer community as the subject of agricultural activities is absolutely necessary with all their limitations. The role and involvement of the community in the development of sustainable modern agriculture will be more visible if it is carried out in a farmer group forum. Farmer groups have an important function in farm management, especially in the use of facilities and infrastructure such as irrigation systems, agricultural mechanization, overcoming institutional barriers, managing resources, capital, and agricultural ecosystems. Philosophically, farmer groups are formed to solve problems that cannot be solved by individual farmers. Consolidated agriculture can be formed through farmer groups to increase agriculture productivity. Consolidated agriculture in farmer groups allows the purchase of production facilities and the sale of crops to be carried out collectively, so that procurement and marketing costs are cheaper (Hermanto and Swastika, 2011).



The role of farmer groups in Indonesia has become increasingly vital since the government created the Bimas Programs in 1968 and Insus programs in 1979, and Supra Insus in 1986/87. Government assistance in the form of farm credit (KUT) and production facilities is always channeled through farmer groups, because it is considered more efficient. Technology dissemination activities in agriculture are also more effective if carried out at the farmer group level, because they can convey information to farmers in a short time. Farmer groups are recognized as effective organizations to encourage farmers to increase productivity, income, and welfare. Therefore, it is very important for farmer groups to be re-empowered because the existence of farmer groups has received less attention from local governments, and even seems to tend to be ignored in the era of regional autonomy . Institutional farmer groups which should be a very valuable asset in supporting agricultural development, have not been able to function optimally (Hermanto and Swastika, 2011).

The Indonesian government has actually scheduled regular farmer empowerment programs in the last few decades. Experts in various countries have also researched a lot about the importance of farmer empowerment issues discussed in various literatures, including women's empowerment in agriculture (Mudege, et al., 2015; Sraboni, et al., 2014), influencing factors and indicators of empowerment. farmers (Langerodi, 2013), empowerment in practice (Astuti, et al., 2015), psychological empowerment and individual performance (Davila-Aguirre, et al., 2014). Many scientists suggest that an empirical approach be used in implementing farmer empowerment strategies.

However, this approach has not been completely successful. To date, there are several studies that learn empowerment strategies conceptually, among others, conducted in countries such as China (Zhong, et al., 2015), Mexico (Davila-Aguirre et al., 2014), Tunisia (Dolinska and D'Aquino, 2016), Indonesia (Desiana and Aprianingsih, 2017; Soesilawati, et al., 2017,), Iran (Langerodi, 2013), Pakistan (Murray-Rust, et al., 2001), Bangladesh (Rasyid, et al. , 2016; Sraboni et al., 2014), Nepal (Westerndorp, 2013), and Malawi (Mudege et al., 2015). In those studies, several empowerment strategies were discussed at the individual farmer level. The importance of farmer empowerment at the farmer group level is also studied in depth as subjects and resources for agricultural development development (Mutmainna et al., 2016; Sunarti, 2019).

This article aims to describe and analyze the efforts to empower farmer groups to encourage the implementation of sustainable modern agriculture, as well as to describe and analyze the supporting and hindering factors of the empowerment program. The benefits of research as a contribution of input and thoughts related to the development of group empowerment concept in



the sustainable modern agriculture and providing input, information to the government in policy making in the agricultural sector.

## **2. RESEARCH METHOD**

The methodology used in this study is a qualitative method or also referred to as an interpretive method because the study data is more concerned with the interpretation of the data found in the field. This method is a constructive method because the data found scattered in the field are then constructed in a theme that is more meaningful and easy to understand (Sugiono, 2020). This study was conducted through a review of various scientific literatures in the form of journals, articles, and documents related to the theme of efforts to encourage the development of sustainable modern agriculture through empowering farmer groups. Data collection in this study used a literature survey technique, namely a literature search technique through the process of placing, obtaining, reading, and evaluating research literature. The scientific journals and articles collected are qualified journals and articles on a national and international scale. The search was carried out with the help of search engines search.proquest.com, science.direct; search.ebscohost.com; google scholar and microsoft academic with keywords covering community empowerment, farmer empowerment, strengthening farmer groups, modern agriculture, sustainable agriculture, empowermentmance, farmer'group, modern agriculture and sustainable agriculture .

Furthermore, data processing is carried out by analytical methods, namely the process of analyzing data or information. Data processing is built through the process of reading, understanding and synthesizing scientific journals and articles obtained to develop a concept. This research is a basic research focusing on the development of concepts or theories, without practice in the field. This concept needs to be explored further so that it can be applied into reality (Wiguna and Manzilati, 2014).

## **3. RESULT AND DISCUSSION**

### **Sustainable Modern Agriculture Development**

The development of sustainable modern agriculture is a necessity. Modern agriculture which is characterized by the use of new technologies and innovations in agricultural activities must be implemented properly to ensure increased productivity, income and welfare of farmers. Meanwhile, sustainable agriculture needs to be implemented more intensively so that efforts to stimulate agricultural land productivity do not cause negative impacts in the form of land degradation and environmental damage.



The main element in the development of modern agriculture is the role of farmers and technology, in this case related to institutions that regulate the behavior of farmers individually and collectively as well as openness to everything that comes from outside. The development of modern agriculture leads individual behavior towards being open to external developments, especially technology or innovation. This will guarantee the sustainability of the agriculture resources. In addition, collectively the behavior of the community is directed to support the use of resources for mutual welfare.

The dynamic sustainable development of modern agriculture requires as follow : (1) Farm management is carried out as a business entity; (2) The production process is carried out efficiently, effectively, and sustainably in make use of available resources; (3) Institutional development to encourage capacity building personal and communal so that farmers earn adequate income; (4) Awareness of the farming community is formed about the importance of technology through sustainable innovation system development.

Thus, modern sustainable agriculture is a dynamic farming activity and provides welfare to farmers by cultivating commodities according to market demand, utilizing resources efficiently and sustainably and supported by strong institutions and technology that can optimize added value for farmers as business actors (Motes , 2010).

### **Farmer Community Empowerment**

Based on the Law of the Republic of Indonesia Number 19 of 2013 concerning the Protection & Empowerment of Farmers in Article 1 Paragraph 2 it is written that the definition of farmer empowerment is all efforts to improve the ability of farmers to carry out better farming activities through education and training, counseling and assistance, system development and means of marketing agricultural products, consolidation and guarantee of agricultural land area, easy access to science, technology and information, as well as strengthening farmer institutions. Farmers need to be given protection and empowerment so that they have the capacity to continue to grow and develop to become more prosperous.

According to Waworuntu, et al. (2021) the process of empowering farming communities can be carried out in 3 (three) stages, namely: (1) The stage of awareness and behavior formation with the aim of increasing awareness of the potential or desires of farmers so that they behave positively to increase farming results; (2) The transformation stage of work ability with the aim of strengthening the potential or power of the farming community in farming; (3) The stage of increasing intellectual abilities with the aim of improving the intellect, skills and skills of farmers in managing farming into a profitable business.

### **Farmer Group Empowerment**



The formation of farmer groups as one of the institutional models of farmers is a driving factor for the success of the development of sustainable modern agriculture. In Indonesia at this time, farmer groups have been formed in almost every village, the number of which has reached 576,897 farmer groups (BPS, 2020). However, most of the farmer groups have not been able to play the role as expected. The performance of farmer groups which is still relatively low is due to, among others, the management has not been able to actively carry out their duties, group membership is not clearly recorded, the organizational structure is not complete, the productivity of farming is low and the guidance from extension workers is less intensive (Hermanto and Swastika, 2011).

Empowerment of farmer groups according to the Minister of Agriculture Number 67/permentan/SM.050/12/2016 is directed at (1) strengthening poktan to become strong and independent farmer institutions; (2) capacity building of members in agribusiness development; and (3) increasing the capacity of the poktan in carrying out its functions. According to Yuniati, et al. (2017) institutional strengthening of farmer groups can be encouraged through: (1) Structuring institutional capacity; (2) Capacity building of institutional resources; (3) Increasing service capacity; (4) Expanding the network of cooperation or partnership.

Tulandi, et al. (2018) explained that the participation of members in farmer groups is very important in carrying out various agricultural activities or programs within the scope of farmer groups. Member participation can be done in several forms, namely the formation of decisions, participation in the formation of implementation and participation in the formation of evaluations. Member participation or farmer participation is the participation of farmers both individually and in groups in the field of agricultural business with full awareness and responsibility. Thus, the empowerment of farmer groups can be carried out in tandem with the empowerment of their group members. The progress of farmer groups will be reflected in the agricultural progress of their members.

Based on the Minister of Agriculture Number 67/permentan/SM.050/12/2016, increasing the ability of farmer group members in developing farming includes: (1) facilitating the identification process of needs and problems in farming; (2) improve the ability of members in analyzing market potential, business opportunities, regional potential and available resources; (3) develop the initiative and creativity of members in taking advantage of business opportunities, information, and access to capital; (4) improve the ability of members in managing environmentally friendly and sustainable commercial farming; (5) improve the ability of members in analyzing business potential; (6) developing member capabilities to develop site-specific technologies; (7) Encouraging members to be able to develop business capital. Improving the



ability of members is the duty and responsibility of the farmer group management and must be a top priority in the development of farmer groups.

### **Empowerment Actor**

Empowerment actors who play a role in sustainable agricultural development must be driven by local governments, in this case the Department of Agriculture as a technical agency that directly handles agricultural activities. The main task is to coordinate the program provided by the service with farmer groups related to the implementation of the program to be given. The implementation of the program given to farmer groups will be accompanied by an agricultural extension worker who serves as technical assistance. Furthermore, empowerment actors are determined from community leaders and administrators as well as local Gapoktan members so that they can interact intensively directly with farming communities in their respective farmer groups (Astuti, et al., 2015).

The results of research from Kirana and Adi (2021) in the process of empowering farmers, not only need an active role from internal actors, namely Poktan and its members. However, this empowerment process will be maximized if it is supported by the local government which acts as an external actor. These two actors need to work together to achieve the same goal, namely the condition of farmers who are more empowered.

### **Program and Activity Implementation**

The initial stage in the implementation of empowerment is the creation of an empowerment program where each program is aligned with the conditions of the group. farmer group members so that the program implemented in time can be useful for the progress and welfare of farmer group members. In the process of planning an empowerment activity program, the involvement of the management and members is needed, so that all parties participate in designing the empowerment program and convey the right ideas according to the needs of all group members (Waworuntu, et al., 2021). The local government through the Department of Agriculture, especially agricultural extension workers, is very important to be involved in the preparation of the empowerment program (Astuti, et al., 2015).

The implementation of the Farmer Group program focuses on increasing the production of agricultural products in order to increase the welfare of farmers. And based on the planning carried out by the Farmers Group, the program as an effort to empower the farming community is as follows: (1) Counseling. Counseling is very useful to increase awareness and shape behavior for members of farmer groups, agricultural extension activities are a communication process so that members of farmer groups are able to realize the planned program; (2) Training. Training is one way to improve the skills of each member in supporting their farming activities; (3) Fulfillment of



production facilities in the form of subsidized seeds, medicines, fertilizers and agricultural tools (Waworuntu, et al., 2021).

### **Supporting Factors for Empowerment of Farmer Groups**

The main factor that supports farmer group empowerment activities in the development of sustainable modern agriculture is government support from both the central government and local governments (Astuti, et al., 2015; Faujiah and Suhandi, 2020). One form of government support is the provision of PUAP (Rural Agribusiness Development) funds which are donated to the Association of Farmers Groups (Gapoktan). These funds can be used to provide capital loans to members in running agribusiness businesses with the obligation to return the funds after harvest. In addition, government assistance in the form of providing facilities for managing loans to banks facilitated by Gapoktan is also a supporting factor for farmer group activities.

Changes in the mindset and behavior of management and group members so that they are willing to participate in agricultural management with modern sustainable technology are also very important and very important for the success of group programs. This can be resulted from an awareness process driven by extension workers and community leaders, so that human resources from extension workers and community leaders become the determining supporting factor (Hermawan, 2017).

Another very important supporting factor is the availability of agricultural institutions and agricultural production facilities. Agricultural institutions that are needed include the Center for Independent Rural Agriculture, Agricultural Cooperatives, Multi-Business Cooperatives and Microfinance Institutions. The existence of this agricultural institution can play a role in providing information on new technologies in agricultural cultivation and also provide support in providing production facilities and other needs of group members. Microfinance institutions have a role in meeting the short-term funding needs of members at very low interest rates . The independence of farmer groups can be formed through the support of production facilities in the form of organic fertilizer processing equipment that allows farmer groups to produce bokashi/organic fertilizers to meet the needs of members. The support of other business actors such as agricultural shops / kiosks is also important as an official distributor of subsidized fertilizers from the government, and helps market the production of farmer groups (Astuti, et al., 2015).

### **Inhibiting Factors of Farmer Group Empowerment**

The inhibiting factor for farmer group empowerment activities in the development of sustainable modern agriculture is the problem of capital, where in the dry season farmers do not get income, while during the planting season farmers need funds (Hermawan, 2017). The problem of the availability of labor and also expensive wages for land processing costs (Astuti, et al., 2015).





Season is also an obstacle in the implementation of farming activities carried out in farmer groups, because farmers can only plant in the rainy season, while in the dry season the availability of water is not sufficient for farming activities. Lack of supporting resources can also be an inhibiting factor in the development of sustainable modern agriculture, such as a shortage of agricultural extension workers as assistants to group members and a shortage of organic fertilizer production equipment. As a result of the lack of resources and production facilities, the activities carried out do not provide optimal results (Astuti, et al., 2015).

#### **4. CONCLUSION**

Based on the discussion that has been presented in the description above, it can be concluded that the sustainable development of modern agriculture can be encouraged through the empowerment of farming communities who are members of the Farmer Group. Empowerment programs can improve the ability of farmer groups to carry out their functions optimally and at the same time stimulate the ability of their members to increase their knowledge and skills in developing sustainable modern agriculture. The availability of empowerment actors from the local government, as well as from community leaders and farmer group leaders is very important as a motor as well as a motivator in moving the Farmer Group and its members. Important supporting factors in empowering Farmer Groups are government assistance, improving the mindset of administrators and members, and the availability of strong agricultural institutions. Meanwhile, the inhibiting factors include capital problems, the availability of labor and high wages, as well as limited agricultural resources and production facilities.

Suggestions that need to be conveyed here relating to the development of sustainable modern agriculture are the importance of government support, both central and local governments in empowering farmer groups, especially the dissemination of technology and innovation in agricultural business management, as well as capital assistance and production facilities.

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