



Implementation of Corporate Farming Program on Rice Farming (Case Study on Farmer Group Semangat 45)

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Abstract—The Corporate farming is a form of economic cooperation from a group of farmers with an agribusiness orientation through consolidation of expansive land management (Department of Agriculture, 2000). Spirit 45 Farmers Corporation Program which is located in Kel. Panrannuangku, Kec. North Polongbangkeng, Kab. Takalar which has focused on rice commodities since 2018 but in the field shows that the implementation of the program has not run optimally, therefore a study is needed to thoroughly understand the implementation of the program as an improvement material for further implementation or for the replication process in other areas. This study uses descriptive analysis to see the performance of all stakeholders involved in implementing the program. The results of the study show that the activities are not in line with the concept of integrated areas and corporations, farmers still carry out activities as individuals who are only responsible for their cultivated land and corporations have not been able to become institutions that are extensions of farmers' hands.

Keywords—rice development areas, corporate farming, farmer corporation.

I. INTRODUCTION

Based on the general fact, some of the real problems faced by farmers are land ownership that is getting narrower, the level of individual knowledge/skills of farmers are still relatively low, the business capital owned are still relatively small, organizations at the farmer level are still more organizational/social groups, and the patterns of farming that is not yet oriented to farming as a company/industry based on an entrepreneurial spirit or are still classified as a small farm (Susilowati, 2016).

Briefly, to overcome this, farmers need to join and work together in agricultural business groups, which combine resource management and business decisions in a management (Setiasih, 2020). The same thing was stated by Ekowati et. Al. (2020) that the solution that can be done is if the institutional system of rice farming is transformed into land consolidation institutions, corporate farming and modern agriculture.

In principle, corporate farming is a cooperative effort between farmers by combining relatively small businesses into a large-scale business that fulfills economies of scale in one business institutional management. With the integration of these strengths, adequate productivity is obtained to meet market needs, both in terms of quantity, quality, and continuity. In addition, corporate farming makes farming more efficient, more competitive, and produces added value which is expected to increase farmers' income and welfare (Bawono, 2018).

Corporate farming itself has been implemented in several areas, one of which is Yogyakarta, Bantul which is the result of collaboration between BI and the Faculty of Agriculture, Gadjahmada University which found that land consolidation in the implementation of this program had a direct impact on the average area of land managed, which increased from 0.07 ha to 0.26 ha and in terms of productivity there was a fairly large increase from 3.5 tons to 7.7 tons per ha (Bank Indonesia DIY, 2017). The

positive results of this program are also explained by Sinuraya et al (2011) that although farming consolidation is still in the form of trials in several locations, it can be said to be successful in reducing the rate of land conversion and agricultural land fragmentation.

Back in South Sulawesi itself the concept of Corporate Farming has also been applied based on the regulation of Minister of Agriculture Number 18/Permentan/RC.040/4/2018 concerning Guidelines for the Development of Agricultural Areas Based on Farmers' Corporations. The Ministry of Agriculture explains that the direction of agricultural development policies and strategies with a farmer corporation-based agricultural development approach is intended to combine plans, implementation of policies, programs, activities and budgets for agricultural area development with efforts to encourage aspects of farmer empowerment carried out in a farmer economic institution. and carried out in areas that have been designated as agricultural areas so that they can become a unified whole in the perspective of the farming system (Ministry of Agriculture, 2018). In other words, regional development is carried out through an approach that combines technical and institutional aspects.

The Farmer's Corporation Program is located in Panrannuangku, North Polongbangkeng, Takalar Regency which has focused on rice commodities since 2018 but based on initial observations in the field shows that the implementation of the program has not run optimally, therefore it is necessary to do a CIPP analysis to thoroughly understand the implementation of the program for the past three years by the involved stakeholders. Therefore, the purpose of this study is to evaluate and reformulate the application of corporate farming that is appropriate for the Semangat 45 farmer group as the main implementer of activities in the field in order to maximize the results that can be obtained.

II. METHODOLOGY

2.1 Location and Time Period

This research was conducted in Panrannuangku Village, North Polongbangkeng, Takalar Regency, South Sulawesi. The location selection was chosen purposively with the consideration that in that location a farmer corporation program has been implemented. This research was conducted in June-September 2021.

2.2 Sampling Method

The population in this study were all stakeholders who played a role in the implementation of the Farmer corporation in Panrannuang. The sampling technique in this study was purposive in order to provide the required information in greater depth. It was determined the

representation of parties who had a role in the implementation of corporate farming for the last 3 years, the samples used in the study, namely: (1) The head of the farmer group as an main informant and 42 members involved in the implementation of the farmer corporation; (2) 3 people, namely the Chairperson and members of the Program Executor from the government, namely from the Center for the Study of Agricultural Technology; (3) 2 people, namely the head of the food crop division and field officers from the Takalar Agriculture Service; (4) 1 extension worker for North Polongbangkeng BPP; and (5) 1 private party who is a farmer partner.

2.3 Type and Data Source

The types of data used in this study consisted of two types, namely primary and secondary data. In this study, primary data was collected by observation, namely pre-research, research and post-research observations which were used as auxiliary methods with the aim of observing research objects and interviewing them about the program they were running. The data obtained to see the implementation of corporate farming in the field is the organization and management of farmer groups/gapoktan in implementing the Farmers Corporation and its suitability to the implementation stage through four engineering corporate farming systems and then sharpened with documentation carried out by researchers in the field. The secondary data used in this study were obtained from the Department of Agriculture or from other sources capable of supporting the information in this study.

2.4 Data Analysis Methods

The data analysis used in this research were descriptive analysis. Descriptive analysis (Sugiyono, 2009) is a method that serves to describe or provide an overview of the object under study through data or samples that have been collected as they are without analyzing and making conclusions that apply to the public. Descriptive analysis was used to describe the implementation of corporate farming in research locations that has been carried out since 2019 in collaboration between farmers, the government, and the private sector.

This Corporate-Based Food Crops Area Development Assistance Program is located in Panrannuangku, North Polongbangkeng, Takalar Regency, Province of South Sulawesi, which has been implemented since 2019 involved 43 farmers. Interviews were conducted with all farmers involved while other supporting data were obtained from relevant agencies at the central to district levels. As previously explained, in this study the performance achievement assessment was analyzed based on four techniques and adjusted to the Technical Guidelines for Food Crops Development.

III. RESULT AND DISCUSSIONS

This activity was Assisted the Development of Rice Crops Areas based on Farmers' Corporations. This program was brought by the South Sulawesi Agricultural Technology Study Center (BPTP), which is one of the UPTs of the Agricultural Research and Development Agency with the main task of reviewing and assembling appropriate location-specific agricultural technology innovations and conducting dissemination to accelerate the transfer of agricultural technology to the user farmer level. This assistance activity for the rice area in Takalar Regency was a new location (first year) which began in 2018.

This assistance activity referred to the guidelines and technical guidelines for the Implementation of Assistance in the Development of Agricultural Areas and is adapted to site-specific conditions.

- 1) Kepmentan NO 472/Kpts/RC.040/6/2018, Regarding the Location of National Agricultural Areas.
- 2) Regulation of the Minister of Agriculture of the Republic of Indonesia Number 18/Permentan/Rc.040/4/2018 concerning Guidelines for the Development of Farmers' Corporation-Based Agricultural Areas.

The Technical Guidelines for the Development of Food Crops Areas outline several objectives of the activity. From these goals, the provincial implementer determined the gradual goals that were used for the past 3 years in the field as a step for the entry of the corporate farming program. The goals in question were divided into 2 parts, namely annual and long-term goals. In 2018-2019, it is known that the expected goal is to focus on the application and utilization of location-specific technological innovations, while in 2020 it will focus more on strengthening farmer institutions towards the formation of corporations. In these three years, this program is expected to increase production and productivity to achieve sustainable rice self-sufficiency.

To see whether the goals of the collaboration have been achieved, it is assessed based on product evaluation which focuses on the outcomes or results of the implementation of farmer corporations that have been running for the last three years. The first thing that can be seen is the increase in production from the application of technology with the description in table 1 below:

Table 1. Technology Component Before & After Corporate Farming

No	Technology Component		
	Types of Tech.	After	Before
1	Variety	Inpari 42, 43	Inpari 9, Ciherang, Cisantana
2	Planting	Sistim Legowo 2:1	Sistim Tegel
3	Fertilizati on	NPK 300 kg/ha Urea 200 kg/ha	NPK 150 kg/ha Urea 300 kg/ha
4	Agrimeth	Agrimeth 250-500 ha	-
5	Agrobiode komp	Agrobiodekomp 1000-2000 gr/ha	-
6	Peng. H/P = PHT	Peng. H/P =PHT	Peng H/P = Pest
7	Harvest	Combine Harvester	Combine Harvester

Source: Primary Data, 2021

From the harvest data, it showed an increase in production of 2-3 tons/ha after applying the technology introduced by South Sulawesi AIAT. The technology used was jajar legowo super. This increase in production yields was the biggest reason why farmers were still applying the technology that has been promoted to date, **FIGURES** there has even been an increase in the number of members of the corporate group, which was originally only 17 people, now there are 43 people. The results achieved were in line with the following research results, such as the results of the study of Idaryani and Yasin (2017), that in the study of the application of jarwo super technology in lowland rice plants, it gave a better growth response and yield compared to rice cultivation without the application of jarwo super technology. Jarwo Super technology can increase rice productivity by 30%. Reports on the results of implementing the Legowo jajar system in Bajeng District, Gowa Regency on technically irrigated rice fields showed dry grain yields reaching 8.50 t/ha, higher than the tile system at 6.36 t/ha (Hamdani et al., 1996).

After the application of good technology, farmer corporations must also be supported by their organizational management. It is necessary to carry out centralized management regarding the management of the agribusiness system from upstream to downstream by consolidating because the problem to be solved also with the presence of this program is to improve the agribusiness

side of small-scale farmers. The concept of agribusiness appears to shift the focus to farmers and their farming, but also to the business aspects of farming itself, and is placed comprehensively with other socio-economic aspects owned by farmers (Khrisnamurthi and Fryanto, 2015).

In the application of corporate farming, the agribusiness system is divided into two, namely internal subsystems (subsystem for procurement of inputs, farming production subsystems, agricultural processing and

industrial subsystems, and marketing subsystems) and external (supporting institutional subsystems). The internal subsystem itself should be carried out in groups with centralized command by the farmer's corporate management, in this case the Semangat 45 farmer group. The following is a description of the management of the internal subsystem before and after the establishment of the program:

Table 2. Implementation Stage of corporate farming in the Agribusiness System of the Semangat 45 Farmer Group.

No	Agribusiness System	Implementation	
		Before	After
1	Production Input Procurement Subsystem		
	a. Seed	Purchased at the production kiosk by each farmer	Supplied by seed breeding companies according to the unit area incorporated
	b. Fertilizer	Purchased at the production kiosk by each farmer	Obtained from Gapoktan based on RDKK
	c. Pesticide	Purchased at the production kiosk by each farmer	Purchased at the production kiosk by each farmer
	d. Irrigation	Obtained from the water dam of bisuwa	Obtained from the water dam of bisuwa
	e. Agriculture Tools	From the farmer's own group or other farmer groups by paying for services by each farmer	From the farmer's own group or other farmer groups by paying for services by each farmer
2	Farming Production Subsystem		
	a. Seeding	Sown by each farmer	It is done individually but the use of agrimeth is added
	b. Soil Preparation/Cultivation	Using tractors owned by other farmer groups or groups individually	Using tractors individually on each field and applying biodecomposers in groups
	c. Planting	Done individually so the distance and time of planting are different	Done individually but the distance and time of planting is done according to the agreement
	d. Plant maintenance:		
	• Weeding	Done individually so it is different for each land	Done individually so it is different for each land
	• Fertilization	The use of excessive doses of urea fertilizer individually	The use of urea and NPK fertilizers is regulated based on individual soil PH measurements
	• Pest and disease protection	Individual use of chemical pesticides	The use of chemical pesticides is regulated and added by vegetable pesticides by each farmer
	e. Harvest	Using various harvesting tools and at different times	Using a <i>combine harvester</i> by paying for services and a predetermined harvest time
3	Agricultural Products Processing	60% of the grain produced is	No processing

	and Industry Subsystem	processed outside the Takalar district	
4	Marketing Subsystem	Sold directly by farmers	Sold to a seed company

Source: Primary Data, 2021

In table 2 it is known that in 2020, the implementation of this program has not been properly consolidated in all aspects, especially in the production process of their farming, as evidenced by the absence of land unification so that there was still a tendency for farmers who join to work only for their respective lands and spend individual costs and labor for their own farming, although directions regarding the procurement of seeds and fertilizers as well as planting and harvesting times are carried out simultaneously.

This happened because two important points were not implemented properly, namely the management of corporate organizations that have not been formed and farmers have not been able to entrust their land to be fully managed by the corporation so that they only acted as shareholders according to the area of the land they have.

The next realization related to the external subsystem of agribusiness where this involved supporting institutions that partnered because corporate farming is one of the collective partnership schemes in agribusiness farming to be able to compete in modern and global markets. The partnership approach in agribusiness development is also able to reduce inequality and encourage the optimization of the use of resources in agricultural businesses which have been considered less efficient (Darma, 2017). Therefore, institutional innovation at the farmer level is needed that is well integrated into the rice agribusiness system from upstream to downstream with partnership channels because according to Darma (2017) that a solid agribusiness system can be maintained and developed if it is supported by resources, norms, and institutions. To achieve this, institutional engineering is needed as follows:

The results of interviews and observations in the field showed that:

- 1) Corporate institutions have not worked as expected, currently there are only three institutions that have good cooperation with farmer corporations, namely BPTP as a facilitator who pioneered this program, Gapoktan/P3A as a route to get fertilizer and irrigation, and private companies (seed cultivators) as a supplier and market partner of production products. Meanwhile, with regional institutions (BPP and the Department of Agriculture) there was poor coordination or synchronization. As well as economic or financial institutions as a source of

capital for the formation of corporations, until now they have not had a partnership relationship with farmer groups.

- 2) In the first year of program implementation, the government provided inputs for production in the form of seeds and fertilizers. The results of interviews with farmers stated that the distribution of assistance was right on the planting schedule.
- 3) In the second year, respondents stated that they had no difficulty in selling their products. Among them stated that they received additional income after joining a farmer corporation. The sale of the harvest has partnered with a seed company with a price difference of 100-200 rupiah above the market price. This partnership has not yet provided great benefits for farmers, therefore in the future it is hoped that farmers will be able to build their own hatcheries or produce packaged rice to partner with other large companies.

Based on the results of the discussion regarding the implementation of these activities, it can be seen that the activities do not reflect the expected concept of integrated areas and corporations, the cultivation and processing processes are still carried out by each individual farmer. In fact, the success of increasing production and productivity is not only highly correlated with post-ushatani technological innovation, especially high-yielding varieties and cultivation technology, but also institutional engineering and government policy support (Agricultural Research and Development Agency, 2016).

The final result that has been and has not been achieved is a form of collaboration between stakeholders in the field. This can be studied from three aspects of evaluation, namely context, input and process. This assessment is useful to see the extent to which the work of each party involved during the implementation takes place with the following description:

1. First Aspect

The first assessment is divided into two parts, namely the condition of implementing human resources (farmers) and application natural resources (land). The condition of human resources is seen from the general condition of farmers based on age, education level, and other jobs outside of farming. The description of the results of the indicators from the farmer's perspective is as follows:

Table 4. Evaluation Indicator from Context Aspect

No.	Indicator	Percentage (%)
1	Productive age	81.39
2	Education Level (SMA)	18.6
3	Other Jobs	16.27

Source: Primary Data, 2021

Of these three indicators, only the productive age showed the highest percentage. This figure is still a good opportunity from a technical point of view of its implementation. It is proven by the application of *jajar legowo* super technology that is still used today by farmers because physically a person's ability to work can be measured by his age. The level of education also plays an important role in the application of technological innovations because the level of education indirectly affects farmers' decision making in the implementation of their farming. Farmers will tend to more easily accept the material provided in coaching, training and in technology adoption if the level of education is higher (Haidjrachman, 1983). Although the percentage showed that the level of education (SMA) is still relatively low, people from this low percentage play an important role in the farmer group, namely the chairman and secretary.

Employment outside of farming is also an indicator. This is related to the consolidation carried out in establishing corporate farming. Farmers who are members of the group should give their land to be managed in an integrated manner, the land that is handed over becomes the shares owned by each farmer. So if farmers do not have other jobs besides farming, it will be very difficult for them to hand over the overall management of their land to the corporate farming group.

This study is also seen from the side of natural resources (field implementation), whether the land meets the suitability of determining the criteria for the area based on the results of Minister of Agriculture Number 41 of 2009. The results obtained showed that the determined land has met the criteria for the designated area but there is one indicator that has not been met. This is because the purpose of the farmer corporation was to solve the problems of small-scale farmers so that the land used was still actively producing, then the identification of farming problems by AIAT to see if the technology taught can be a solution. The results showed the problems experienced by farmers in 2018. If we looked at these problems, the technological innovation of *jajar legowo* super is considered appropriate to be applied. Considering that this technology introduces superior varieties, balanced doses of fertilization, and other components.

2. Second Aspect

In this evaluation, what was analyzed was related to social engineering, with the following description:

a. Extention

Counseling in social engineering here means a form of socialization and coordination carried out to provide understanding to all relevant stakeholders so that a good synergy is formed in the implementation of activities. In 2018, at the beginning of this program, the socialization was carried out at the location of the participating farmer groups, namely the *Passion 45* Farmer group. The socialization was attended by 24 participants from the Takalar Regency Agriculture Service, PPL, farmer/farmer groups, community leaders and other parties. private. The socialization material was in the form of an explanation of the mentoring system, the aims and objectives of the assistance activities in the rice farming area. This was intended because in the end the output of this activity in the form of a model of assistance for agricultural areas was expected to be continued by the local government (district).

Coordination has also been carried out by the central party (BPTP) in the form of hearings with the District Agriculture Office of Takalar Regency to obtain information and equalize perceptions related to rice intensification and development. The Department of Agriculture as the executor of the district-level rice intensification program provides directions to the agencies in their working environment (BPP, KCD, and others) to synergize with the escorting of rice area assistance carried out in their working areas.

In 2019, during the year of the introduction of this program, the coordination that has been carried out with farmer groups and the Department of Agriculture resulted in coordination, namely Consolidating the location of activities and pilots and using BPP as a forum to accelerate the arrival of technology by synchronizing PPL meeting schedules.

Thus, it is illustrated that the initial steps taken by the central government were very appropriate considering that this program was being run for the first time in that location, so it was important to explain in outline to the implementing parties and all stakeholders involved. However, farmers' understanding of this program was still relatively low, only the core managers of farmer groups who really understand the implementation of the actual corporate farming program. From this incident, it can be concluded that the socialization was still relatively ineffective because farmers are willing to attend the meeting on the grounds of the distribution of free seeds and fertilizers. However, the core management who

understands this assistance plays an important role in the sustainability of the program to date.

b. Human Resource Development (Technological Innovation and Organization)

- Technological Innovation

The technological innovation that is taught is the Jajar Legowo super technology. The jajar legowo super technology is an integrated cultivation technology for irrigated rice based on jajar legowo planting. According to the South Sulawesi AIAT, this technology was used because the rice fields in the research location were technically irrigated fields because the application used irrigation settings. The supporting technology components applied include: Rice varieties (Inpari 4, 9, 40, 42, 43, IPB 3S), Legowo 2:1 Planting Distance, Fertilization (NPK 300 kg/ha, Urea 200 kg/ha); Agrimeth, Agrobiodekomp; Pest and disease control with the concept of IPM; Harvest with Combine Harvester.

Based on the research results, the application of this technology is considered to be in accordance with the problems of farmers in the field, including the following:

1. The appliance of Inpari 9 that has not been certified is replaced with certified and other varieties that are also superior seeds such as Inpari 42 and 32.
2. The appliance of the tile system in planting is replaced with the application of a 2:1 jarwo planting system which aims to increase the plant population per unit area, expand the influence of edge plants and facilitate plant maintenance.
3. Not using fertilizer in a balanced manner, namely the proportion of urea is more than NPK which is not in accordance with soil nutrients then it is recommended in a balanced manner based on PUTS with a minimum dose of Urea 200kg/ha and NPK 300kg/ha respectively

- Organization Engineering Innovation

The main focus was how to form an organization that was in accordance with the needs of farmers in carrying out corporate farming in accordance with group management where all planning is centralized. The first institutional innovation

was the corporate organization itself which was chaired or managed by someone who was considered competent to lead. At the research location there was no clear assistance and organizational formation because the head of the Semangat 45 farmer group was stated to directly lead this corporate group. This related to the transfer of the site-specific technology application program that began in 2018-2019 to the formation of a farmer corporation which was delayed a lot in 2020 due to budget cuts. From the expected organizational perspective, the institutional innovation of farmers was not yet visible because currently there is no clear coordination structure within the group and only three people who have positions in the management, namely the chairman, secretary, and treasurer of the farmer group.

After the formation of the corporate organization, government institutions should facilitate their partnership with other agribusiness system institutions. In the field itself, in terms of institutional partnerships, apart from seed companies to guarantee seeds during planting and the market after harvesting was carried out, Gapoktan as a partner in providing fertilizer according to the RDKK as well as escort and assistance from BPTP.

Furthermore, the continuous of Bimtek was carried out with more intensive assistance by extension workers on duty at the location. The North Polongbangkeng BPP instructor in carrying out his duties already has a schedule that has been prepared within a year. The activity schedule in the form of a weekly or monthly meeting schedule was a potential forum for use in carrying out regional assistance.

3. Third Aspect

In the evaluation process that was analyzed was the implementation of corporate farming program activities. The indicators seen in this evaluation can be seen in table 5 below:

Tabel 5. Indicator Analysis of Process Evaluation

No	Process Evaluation Indicator	Yes	Not	Description
1	Availability of budget (capital)		V	No financial institutions have cooperated during the program
2	Availability of seeds and fertilizers	V		The government provides seeds and fertilizers
3	Land Consolidation		V	Farmers cultivate their own land
4	Use of Technology Suggestions	V		Using location-specific technology
5	Carry out the production process according to the agreement	V		Use of superior varieties and planting time as recommended
6	Use of shared irrigation	V		Using irrigation and pumping together between members
7	Simultaneous Harvest Implementation	V		Harvesting is done at the appointed time
8	Sharing Harvesting Tools		V	Tools rented by each farmer
9	Harvest processing		V	Not processed products
10	Ease of accessing the market	V		There are market partners

Source: Primary Data, 2021

The results of the field study showed that of the ten indicators, it is known that six of them have been implemented while the other four indicators have not been implemented until 2021. This showed that there has been a good trend in the implementation of smallholder corporations, although it has not been fully implemented. From the results of the evaluation study, it is known that it is difficult to implement due to the absence of an economic institution with a legal entity and the absence of a partner providing capital.

IV. CONCLUSION

Based on the research objectives and the results of the discussion, some things that can be concluded are as follows:

1. In general, activities were not in line with the concept of integrated areas and corporations, farmers still carry out activities as individuals who were only responsible for their cultivated land and corporations have not been able to become institutions that are extensions of farmers' hands.
2. The performance achievements of the implementation of the farmer corporations are divided into three main stakeholders, namely:
 - a. For farmers: The results of the mentoring had a positive impact, especially in the application of site-specific technology for rice farming to date which has an impact on increasing production, namely 2-3 tons/ha.

- b. For the Government (BPTP, Takalar Agriculture Service, Polut BPP, Seed companies): The pilot program by South Sulawesi AIAT at the research location went well, and the Seed Service which accompanied the process of cooperation with the seed company partners also positive things, but in terms of program maintenance for the Agriculture Office and BPP Polut has not well executed so far.
- c. Private sector (partners): until now there is only one partnership that exists, namely a seed company as a supplier of seeds and a market for farmers' products, but other partnerships have not been formed.

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