



## Research Article

# Mapping of Farmer Economic Institutions for the Development of Food Crop Farmers Corporations in East Java

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### ARTICLE INFO

#### Article history

Received March 7, 2021  
Revised October 19, 2021  
Accepted October 29, 2021  
Published October 31, 2021

#### Keywords

Farmer Economic Institution  
Corporation  
Regency  
East Java

### ABSTRACT

To increase the reinforcement of farmer capacity, farmer institutions and business capacity become the primary capital for forming farmer corporations. Hence, it is necessary to develop a mapping of agricultural areas based on farmer corporations, especially food commodities in East Java. It combines a series of programs, especially farmer corporations, into one unified whole to align with the Strategic Planning for Regional Development. Mapping of farmer economic institutions (KEP) or farmer group classes to find out which farmer group classes have the potential to become farmer economic institutions. Middle and primary-class farmer groups are a class having the potential to be developed and included as a category of farmer economic institutions (KEP). Accordingly, agricultural areas, which are rice, maize, and soybean areas, can be delineated, having the potential to be developed as a farmer economic institution as a form of farmer corporation in the region. From the research results, it is obtained that farmer economic institutions (KEP) exist in several regencies in East Java. The highest economic institutions were formed in the regency of Tulungagung and Bojonegoro. Some regencies only have one institution that can be formed. The number of formed farmer economic institutions (KEP) can create farmer corporations which are essential for the growth and development of farmer corporations as a basis for improving farmer welfare.

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## INTRODUCTION

Regencies/cities in East Java mostly still rely on the agricultural sector as the driving force for economic growth in their regions. It is illustrated by the distribution of the role of the agricultural sector, which on average is 20-39 percent of the total GRDP of the Regency/City (Hermanto & Hardonop, 2015). The agricultural sector is becoming the center of attention in national development, especially concerning the management and utilization of strategic results concerning food commodities. It is expected that the management and utilization of the results of these agricultural products can be carried out in a more planned manner with optimum utilization, and they can be enjoyed by the entire population, especially rice which is a basic need for the people of East Java (Isbah & Rita, 2016). The wealth of natural resources in Indonesia can be used as the main capital in developing the agricultural sector to improve people's living standards. The underdeveloped agricultural

sector still becomes a problem in Indonesia. It is evident from the agricultural sector's contribution to national income through the Gross Domestic Product (GDP), which is a manageable size (Widyawati, 2017).

The agricultural sector in Indonesia and several countries are still underdeveloped. It faces challenges such as low productivity, lack of capital, inadequate support, inadequate organization, inadequate farmers, and lack of competitiveness with other sectors (Kakar et al., 2019). The agricultural sector is often no longer considered an important economic sector, and its contribution to the national economy is often ignored (Loizou et al., 2019). It is known that agriculture is a risky sector. Some foodstuffs have fluctuating prices from year to year, and production levels also change. These factors are also related to unstable farmer incomes (Sevinc, 2021).

Agricultural development is an essential and inseparable part of economic and national development (Isbah & Rita, 2016). The development of agricultural development is directed as an area-based development which is the basic philosophy and is oriented towards the welfare of farmers. Hence, policies are needed in developing agricultural areas regulated in the Regulation of the Minister of Agriculture of the Republic of Indonesia number. 18/2018 concerning Guidelines for Farmer Corporation-Based Development of Agricultural Areas, where corporation farmers empower farmers in agricultural areas. Nursyamsi (2020) states that the main requirement for the realization of farmer corporations is the existence of solid farmer economic institutions, not individualistic, not standing alone. The corporation will ensure that each shareholder gets the same profit. If there is a loss, the risk of loss will be shared.

A cooperative is a business owned by users and controlled by users in which the benefits can be received proportionally (Neopane et al., 2015). Sevinc (2021) notes that the main impetus for cooperative organizations in developing countries comes from agriculture, or more precisely, from marketing cash cooperatives for export. Since then, the development of cooperatives has taken on different forms and dimensions. Agricultural cooperatives play an important role in food production and distribution (Neopane et al., 2015). Hence, agricultural development is directed at fulfilling food needs from domestic production independently and being able to protect and prosper farmers as the main actors in the agricultural business. Efforts to improve the welfare of farmers can be realized by forming farmer economic institutions (KEP), which are legal entities in the form of cooperatives in the form of other legal entities, with most of the capital coming from farmers (Rahmadani et al., 2017).

Since 2019, farmer corporations have begun to develop as a form of Farmer Economic Institutions (KEP), especially in the areas/regions of rice production centers and optimizing swampland for agricultural extensification known as Food Estates. Development of farmer economic institutions (KEP), as an institution formed to increase farmers' income and knowledge, at the locations of food estate help farmers to obtain working capital and assist sales of crops aimed at optimizing yield productivity, contributing to national food security (Haryanto et al., 2022). The material that will be provided as a step to determine the strategy for growing farmer economic institutions (KEP) is a model of farmer economic institutions, namely cooperatives (Noeng et al., 2019).

There are differences between farmer economic institutions (KEP) and other farmer institutions, including (a) Farmer groups are businesses that are run more on farms or cultivation. Farmer groups are tasked with producing cultivated products, which are generally fresh agricultural products. (b) Farmer group associations are businesses to provide more production facilities and market the results of joined farmer groups. (c) Agribusiness Microfinance Institution is a business that is active in the economy but is more focused on savings and loans, and (d) a Farmer Economic Institution (KEP): is a business entity of a farmer group association that is not only about marketing but how to provide benefits and welfare to its members (Evrinasp, 2019). Based on the research results of Haryanto et al. (2022) shows that the variables that have a significant effect on institutional character are social aspects and profitability. These two aspects are the main characteristics of Farmer Economic Institutions (KEP). Meanwhile, the research results of Noeng et al. (2019) conclude that farmer economic institutions' growth is obtained from all parties support. The head of the farmer group provides direction to motivate farmers to grow it. Besides that, agricultural extension workers who act as facilitators provide counseling about farmer economic institutions. Meeting activities also play a role in helping farmers to communicate. The agriculture office and related agencies also play a fundamental role in the success of the growth of farmer economic institutions.

The results of the research by Efendi and Mustafa (2020) show that farmer groups have an actual or significant effect ( $p \leq 0.05$ ) on the development of farmer institutions into farmer economic institutions, with a coefficient value of 0.438. With this coefficient value, farmer groups can encourage the development of farmer institutions into economic institutions if they are improved, especially from the aspect of group function. In addition to farmer group activities, the extension approach is carried out to develop farmer economic institutions (KEP) by increasing the capacity of farmer associations and farmer economic institutions as the main actors in

agricultural development, focused on escorting and assisting extension workers. It is because agricultural extension is essential to help farmers to be able to solve the problems they face themselves, so the need to be awareness raising for farmers about external influences that limit their business in farmer economic institutions is required. In addition, identifying needs arising from these influences further determines fulfillment (Wibowo, 2017).

Basically, the concept of farmer corporation has been contained in the National Medium-Term Development Plan and strategic planning for the Technocratic of the Ministry of Agriculture of 2020-2024, which will be implemented as a major project for the period of 2020-2024. The major project for developing farmer cooperatives is one of the efforts to build an integrated agricultural area development system by integrating the upstream, cultivation, and post-harvest subsystems (on the farm) with processing, marketing, and support (downstream) (Prasetyo & Setiani, 2020). For this reason, it is necessary to break through the mindset of all agricultural actors, especially farmers, to become the main actors in the agricultural business, which is supported by programs or activities of the Central Government and Regional Governments in the form of strengthening farmer capacity, farmer institutions, and business capacity as primary capital in the implementation of the major project development of farmer corporations.

In connection with the above statement, it is necessary to compile a mapping of agricultural areas based on farmer corporations, especially food commodities in East Java which is directed at integrating a series of programs, especially farmer corporations, into one unified whole. Hence, increased commodity competitiveness can be achieved while guaranteeing natural resource sustainability, environmental functions, and community safety in harmony with the strategic plan for Regional Development.

## METHOD

This study employed a survey design using a quantitative approach. The survey was conducted in all regencies, including in the area of food crop commodity agriculture, in East Java. Primary data was collected directly from the main source, namely officers who handle farmer institutions in each district. Data collection was conducted through questionnaires, in-depth interviews, and field observations. Secondary data was obtained by recording the data contained in the management information systems on the performance of agricultural extension and related institutions. The results of primary and secondary data were then analyzed descriptively, and spatial arrangement of agricultural areas for food crop commodities was carried out. The results of land evaluation activities are in the form of the Land Suitability Class. The lands directed for agricultural development are based on farmer corporations, according to the regulation of the Minister of Agriculture of the Republic of Indonesia No. 18 of 2018 concerning (1) Land classified as class S1 and class S2, (2) the area of other uses (APL), convertible production forest area (HPK), (3) Uplands, open land, grasslands, rice fields, forests, and non-HGU shrubs, and (4) cultivated land. Farmer Corporation-Based Agricultural Area Development in East Java is an agricultural commodity development area built into a single agroecosystem and farmer economic institution (KEP). Agricultural commodities and farmer economic institutions (KEP) in an area are the dominant commodities (>75%).

Boundaries and basic concepts in the spatial preparation of agricultural area development based on farmer corporations are based on the regulation of the Minister of Agriculture of the Republic of Indonesia No. 18 of 2018, as follows:

### Rice area

- A minimum area of 3,000 Ha; and
- In irrigated paddy fields with suitability for rice classified as class S1 and class S2; and
- Land for rice development with IP rice 200

### Corn area

- The minimum area of 2,500 Ha; and
- In fields or dry land outside the rice area with suitability for corn classified as class S1 and class S2; and
- The land is consistently for maize development in certain seasons for >3 years.

### Soybean area

- The minimum area of 1000 Ha, and
- In fields or dry land outside the rice and corn areas with suitability for soybeans classified as class S1 and class S2; and
- Land, in certain seasons, is consistent for soybean development for >3 years.

The delineation of the area is determined based on the limits mentioned above, done manually, directly on the monitor screen (on-screen digitizing). Mapping farmer economic institutions (KEP) or classes of farmer groups to find which classes of farmer groups have the potential to become farmer economic institutions. Classes of middle and primary farmer groups have the potential to be developed, and they are included as a category of agricultural economic institutions (KEP). Hence, agricultural areas can be delineated, which are rice areas, corn areas, and soybean areas that have the potential to be developed as farmer economic institutions as a form of farmer corporations in the area.

The preparation of the development of corporate-based agricultural areas is based on spatial data (maps), where the existing conditions and potential for agricultural production can be known by analyzing the resource map of East Java land, scale 1:50,000 (BBSLDP, 2016). Land evaluation activities are carried out by matching, i.e., comparing the characteristics of the soil/land with the growing requirements for rice, corn, and soybeans. The land suitability assessment method uses the FAO framework (1976), stating that land suitability is carried out bio-physically (qualitatively). The land suitability system is divided into suitable order (S) and unsuitable order (N). Land classified as suitable order (S) is distinguished into very suitable land class (S1), moderately suitable (S2), and marginally suitable (S3), while land classified as unsuitable order (N) is not distinguished. Cropland suitability criteria refer to the Technical Guidelines for Land Evaluation for Agricultural Commodities (Ritung et al., 2011).

## RESULTS AND DISCUSSION

Farmer institutions can be vertical hierarchical associations, starting from farmer groups, farmer group associations, competency assessors, and boards of commissioners. Farmer groups and farmer group associations focus on aspects of technical farming consolidation. In developing agricultural areas based on farmer corporations, farmer groups and farmer group associations can serve as forums for farmer associations in a production center. Farmer group associations in an area can form a Commodity Association (Agriculture Corporation) (Prasetyo & Setiani, 2020). Hence, the farmer corporation is a forum for consolidating farmers in farming activities. Theoretically, farmer corporations are a form of togetherness and partnership-based farmer institutions. In simple language, the ideal farmer corporation is based on the principle of *Gotong Royong* (Mutual Cooperation). Farmer corporations are built of, by, and for farmers. Institutional (technical, professional, social) farmers are a forum for farmer associations in carrying out certain technical or social activities and are not oriented towards obtaining direct economic benefits or commercial ventures. Susanti (2020) states that farmer corporations are farmer economic institutions formed and jointly owned by several small-scale farmers through the consolidation of farmers and farming businesses within the farmer groups and farmer group associations containers. It is then transformed into Joint Business Group (KUB)/Institute for Community Economics (LEM) or primary producer cooperatives engaged in the procurement business, farming infrastructure and facilities, production business, and marketing of farming products. The KUB/LEM or producer cooperatives formed can be called on-farm farmer corporations, where every farmer member of the on-farm farmer corporation is still fully sovereign in managing their respective farms.

Sevinc (2021) shows that the functions and benefits of cooperatives can be obtained if members work together to obtain credit, services, machinery, transportation, or marketing. However, there are cooperatives sharing almost everything. In a study conducted in Thailand, it was shown that agricultural cooperatives have a positive effect on rural development, increasing farmers' agricultural income and creating positive changes in terms of social and security conditions in rural areas (Sevinc, 2021)

The formation of cooperatives is carried out through the transformation of farmer groups and farmer group association management. Hence, these institutions focus on agribusiness-oriented farming to increase income, added value, and farmers' welfare. The transformation was carried out, covering aspects of organizational management and farm management. Transformation in organizational management is carried out to increase the institutional capacity of farmers. It is from a simple and social organizational structure, where there is only a management consisting of a chairman, secretary, treasurer, and members, to a more commercial business-oriented organizational structure, consisting of a chairman, secretary, treasurer, and business units, as well as the supervisory board. While the transformation of farming is carried out, farmers from doing subsistence farming to fulfill the need to become a commercial, mechanized economic scale and

work on agriculture from upstream to downstream (Mulyani, 2019). Table 1. shows the area of food crops in which there are farmer economic institutions (KEP). The Regency of Tulungagung has the densest and most numerous farmer economic institutions in East Java. With an area of 26,586 hectares of food crops, it can accommodate 143 farmer economic institutions (KEP). Then the number of farmer economic institutions (KEP) at the lower level is the Regency of Bojonegoro, with 44,982 hectares of food crops and 69 farmer economic groups. The Regency of Malang and Banyuwangi have almost the same number of farmer economic institutions (KEP), namely 28 and 24, respectively. However, the food crop area possessed by farmer economic institutions in Banyuwangi has a two times larger area (= 80,952 Ha) compared to the food crop area in Malang - 98 - (34,824 Ha). It is likely to occur because farmer groups in Malang are more active in developing farming businesses in their area. Stringer et al. (2020) state that different types of farmers have different characteristics and require different sustainable adaptations. It is because they start businesses from different points and are affected by existing global trends. Some types of farmers need more intensive action or escort to deal with environmental problems. Some surrender and move to other sectors. Hence, it is necessary to assist farmers in dealing with environmental and other conditions that emphasize economic or socio-cultural interests.

The analysis of Moon and Lee (2020) shows that the lack of a sense of belonging from members of farmer economic institutions is due to several factors, including ownership, perseverance, self-help, financial and human resource limitations, and a lack of ability to manage cooperative operations as one of the weaknesses in cooperative development. To overcome these weaknesses, it is necessary to increase the capacity of its members in the form of financial support, infrastructure expansion, and developing a foundation of self-sufficiency. Those forms are difficult to fulfill by primary cooperatives consisting of small farmers in rural areas who only use internal human and financial resources due to the characteristics of small farmers and limited resources within the community. Therefore, the government and the private sector must ensure a politically and institutionally conducive cooperative environment and provide technical, managerial, and financial support for cooperatives to become self-sufficient (Republic of Rwanda, 2019). Table 1. also shows the Regency with the lowest number of farmer economic institutions. This regency is Mojokerto. It only has a farmer economic institution with an area of 24,373 Ha of food corp area. The farmer economic institution is called Cooperative 'Tani Mulyo'.

**Table 1.** The name of the farmer economic institution (KEP) in the development of a farmer corporation-based food crop area in East Java

Regency	Food crop area (ha)	KEP	Name of Farmers Group
Tulungagung	26,586	143	<i>Alam Subur Sejati, Almunawar, Amprih Mulyo, Angker, Barokah Tani, Bina Budi Mulyo, Budi Makmur, Cipta Mulya Ngrance, Dadi Mulyo, Dewi Sri, Dewi Sri Kedungwilut, Dewi Sri Rejeki, Dono, Duta Tani Makmur, Gapotan Tani Mulya Suwaluh, Gemah Ripah, Gemah Ripah Lohjinawi, Guyub Makmur, Guyub Rukun, Jabon, Jalin Mas Mandiri, Jaya Rahayu, etc.</i>
Blitar	6,587	1	Village cooperative (KUD) "among Tani Jaya"
Malang	44,863	18	<i>Angrek, Kios Tani Subur li, Village cooperative (KUD) "Gondanglegi," Village cooperative (KUD) "Kepanjen," Village cooperative (KUD) "Kompas," Village cooperative (KUD) "Ngajum," Village cooperative (KUD) "Saribumi," Village cooperative (KUD) "Sidomukti," Village cooperative (KUD) "Turen," Women Farmers Group (KWT) "Delima," Agribusiness Microfinance Institutions (LKMA) of farmer group association "Mekarjaya," Agribusiness Microfinance Institutions (LKMA) of farmer group association "Sumber Rejeki," Agribusiness Microfinance Institutions (LKMA) "Mulyorejo li," Makmur Jaya, Mekar Tani, Mekarsari, Sae Kawi, Toko Tani Barokah</i>
Lumajang	8,793	6	<i>Agricultural Cooperative "Harapan Kita," Agricultural Cooperative "Tani Mulya," People's Sugar Cane Farmers Cooperative "Rosan Jaya," Agribusiness Microfinance Institutions (LKMA) "Harapan Tani Jaya," Agribusiness Microfinance Institutions (LKMA) "Mahkota Tani," Agribusiness Microfinance Institutions (LKMA) "Mekar Sari"</i>
Banyuwangi	25,351	1	Rural Agribusiness Development (PUAP)

Regency	Food crop area (ha)	KEP	Name of Farmers Group
Bondowoso	20,152	3	Farmer group association "Prajaya," Village cooperative "Bathin Tunggal," Agribusiness Microfinance Institutions (LKMA) "Al. Hidayah"
Sidoarjo	8,631	10	Village cooperative of People's Sugar Cane Farmers Cooperative "Cokro Negoro," People's Sugar Cane Farmers Cooperative "Rukun Makmur," Village cooperative (KUD) "Sumber Rejeki," Village cooperative (KUD) "Wijaya," Agribusiness Microfinance Institutions (LKMA) "Harapan Tani," Food Barn "Rukun Makmur," Rural Agribusiness Development (PUAP) of farmer group association "Melati," Rural Agribusiness Development (PUAP) of farmer group association "Sido Makmur," Rural Agribusiness Development (PUAP) of farmer group association "Tani Rejo," Rural Agribusiness Development (PUAP) "Sambitani."
Mojokerto	28,262	1	Cooperative "Tani Mulyo"
Jombang	5,335	1	People's Sugar Cane Farmers Cooperative "Rosan Sejahtera"
Blitar	53,417	12	Bintang Buana Bersinar, Budi Karya, Sari Tani Makmur, Sumber Rejeki, Tani Argo Mandiri, Tani Aryo Blitar, Joint Business Group (KUB) "among Tani Jaya", Joint Business Group (KUB) "tekad Manunggal", Agribusiness Microfinance Institutions (LKMA) "Sri Widodo", Agribusiness Microfinance Institutions (LKMA) "Tani Maju", Mawar Bersemi
Malang	34,824	28	Eko Proyo, Madukismo, Subur li, Margo Rukun, Village cooperative (KUD) "Baru," Village cooperative (KUD) "Dau," Village cooperative (KUD) "Kepanjen," Village cooperative (KUD) "Saribumi," Village cooperative (KUD) "Turen," Women Farmers Group (KWT) "Delima," Agribusiness Microfinance Institutions (LKMA) of farmer group association "Mekarjaya," Agribusiness Microfinance Institutions (LKMA) "Sumber Rejeki," Makmur Jaya, Margi Rukun I, Mekar Tani, Sari Makmur, etc.
Lumajang	44,682	7	Harapan Kita, Sri Lestari, Agribusiness Microfinance Institutions (LKMA) Sari Makmur, Agribusiness Microfinance Institutions (LKMA) "Sekar Tani," Agribusiness Microfinance Institutions (LKMA) "Semeru Agung," Agribusiness Microfinance Institutions (LKMA) "Wukir Sari"
Banyuwangi	80,952	24	Agro Lestari, Langgeng Makmur, Margo Utomo, Tani Mulyo, Lumbung, Food Barn "sri Mulyo", Lumbung Pangan "tri Sakti", Farmer Group Cooperatives (KKT) "Jaya Makmur", Tirta Bakti
Bondowoso	40,916	4	Ngudi Makmur, Center for Farmer Cooperatives of Pamor, Bathin Tunggal
Situbondo	24,753	5	Agro Jaya Mandiri, Agrbisi Tani Mulya, Sri Makmur, Maju Bersama, Serasi Jaya
Pasuruan	51,808	13	Agribusiness Microfinance Institutions (LKMA) "Candi Mubarak," Agribusiness Microfinance Institutions (LKMA) "Cendono Makmur," Agribusiness Microfinance Institutions (LKMA) "Melati," Agribusiness Microfinance Institutions (LKMA) "Subur Makmur," Agribusiness Microfinance Institutions (LKMA) "Al Amin," Agribusiness Microfinance Institutions (LKMA) "Gandung Sari Jaya," Agribusiness Microfinance Institutions (LKMA) "Rejeki Barokah," Agribusiness Microfinance Institutions (LKMA) "Sekar Wangi," Agribusiness Microfinance Institutions (LKMA) "Sumber Makmur," Agribusiness Microfinance Institutions (LKMA) "Tani Makmur," Agribusiness Microfinance Institutions (LKMA) "Trubus Lestari"
Sidoarjo	18,516	11	People's Sugar Cane Farmers Cooperative "Cokro Negoro," People's Sugar Cane Farmers Cooperative "Rukun Makmur," Village cooperative (KUD) "Gotong Royong," Village cooperative (KUD) "Sumber Rejeki," Village cooperative (KUD) "Wijaya," Mijil Makmur, Sumber Sari, Sambitani, Tani Ayem Desa Popoh, Tani Makmur Becirongengor, Tri Tunggal Lambangan.
Jombang	59,564	24	Sumbergondang, Maju Makmur, Sri Rejeki, Surya Abadi, Sido Makmur, People's Sugar Cane Farmers Cooperative "Arta Rosan

Regency	Food crop area (ha)	KEP	Name of Farmers Group
			<i>Tijari</i> ," People's Sugar Cane Farmers Cooperative "Rosan Sejahtera," Women Farmers Group (KWT) of farmer groups "Jatirejo," Women Farmers Group (KWT) of farmer groups "Surobayan," etc.
Bojonegoro	44,982	69	<i>Amanah Sejahtera, Barokah, Beno Subur, Dadi Makmur, Damar wulun, Dayu Kidul, Estu Tani, Gemah Ripah Loh jinawi, Karya Makmur, karya Tani makmur, Cooperative "KMA Gapoktan Kolong Setia", Cooperative "KMA Tani Maju Bersama", Cooperative "Media Mandiri", Cooperative "Sejahtera", etc.</i>
Tuban	55,316	15	<i>Bina Lestari, Boto, Gedongombo Makmur, Gesing, Cooperative of farmer group association, Group Cooperative "Maju Makmur, Margo Karyo, Margo Rukun, Ngino, Pancur Mulyo, Sambong Makmur, Sumber Makmur, Wargo Tani</i>
Lamongan	93,454	15	<i>Gunungrejo Makmur, Cooperative "Mekarjaya", Cooperative "Sejahtera", People's Sugar Cane Farmers Cooperative "Lamong Jaya", People's Sugar Cane Farmers Cooperative "Rosan Agung", People's Sugar Cane Farmers Cooperative "Rosan Makmur", People's Sugar Cane Farmers Cooperative "Tebu Wuru", Village Barn "Iembor", Village Barn "Tlogoretno", Food Barn "Sumber Pangan", Food Barn "Tani Subur", Melati Putih, Sidomukti, TP PKK Ds. Banyubang</i>
<b>Total</b>	<b>654,143</b>	<b>371</b>	

The Regency of Lamongan has the most extensive food crop area compared to other Regencies in East Java, but it only has 15 KEPs. It is probably because farmers in Lamongan have limited farmers' capital capabilities (Syafa'at & Sayaka, 1990). Hence, the formed farmer economic institution (KEP) is relatively limited compared to the area of the existing food crops. The limited farmers' capital capabilities are shown by the high percentage of farmers who still need capital for their farming activities, which is between 35 - 55 percent (Soentoro & Bahri, 1988). Farmer corporations are formed from, by, and for farmers through the consolidation of business management from a small scale to a large scale with an economic orientation. The development of farmer corporations is a must to improve the welfare of farmers. President Joko Widodo, in a Limited Meeting of the Working Cabinet on September 12, 2017, also emphasized the importance of growing and developing farmer corporations as the basis for improving farmers' welfare. As a follow-up to the president's directive, the Ministry of Agriculture has issued MoA Number 18/2018, which describes guidelines for developing agricultural areas based on farmers' corporations as farmer economic institutions with legal entities, both in the form of cooperatives and other businesses, most of which capital comes from farmers. Developing a farmer corporation has been stated in the National Medium-Term Development Plan and the Technocratic Strategic Plan of the Ministry of Agriculture 2020-2024, which will be implemented as a major project during this period. Cooperatives become a relevant part of the basis for sustainable economic development and social and environmental goals. Where their role is in promoting food security and good nutrition, cooperatives enable small agricultural producers to overcome remoteness and/or lack of access to information related to market food prices; access to high-quality inputs and the cost of purchasing seeds and fertilizers; access to financial instruments to purchase these inputs, as well as access to infrastructure and transportation in rural areas (Bujang, 2019).

The farmer corporation is a business model to improve the welfare of farmers through more optimal resource management in agricultural areas because it is built in an integrated, consistent, and sustainable manner. Only a farmer economic institution (KEP) was formed in the Regency of Banyuwangi, Mojokerto, Jombang, and Blitar. It is probably since the growth of farmer economic institutions cannot be separated from the support of all parties. It is where the head of the farmer group, as a trusted individual, needs to provide direction to members about the importance of farmer economic institutions so that farmers are motivated to grow it. Agricultural extension workers who act as facilitators need to provide counseling about farmers' economic institutions. The meeting activities are constructive for farmers to communicate and share information to accelerate the growth of farmers' economic institutions. The agricultural office and other relevant agencies also need to make a real contribution to the success of the growth of farmer economic institutions (Noeng et al., 2019).



Figure 1. Map of distribution of farmer corporation areas in East Java

Figure 1. shows a map of the distribution of farmer corporation areas in East Java, marked by brown. When it gets darker, it indicates that the land is getting higher. The lighter brown indicates that the farmers' corporate area is lower. Brown spots indicate the number of economic institutions/corporations that have been established. The browner spots are, the more farmer economic institutions will be in that location. Figure 1. shows that the Regency of Tulungagung, Bojonegoro, Lamongan, Malang, and Banyuwangi have many brown spots. It shows that the economic institutions formed are also shown in Table 1.

Baga (2009) states that to improve the development of economic institutions, farmers emphasize entrepreneurial education and training strategies, cooperative counseling strategies for members of farmer groups, strategies for establishing agricultural cooperatives, and the need for a strategy for establishing secondary cooperatives. In addition, there is another strategy to improve the welfare of farmers by breaking the supply chain because the grains in irrigated land are sold through traders who come to the village. When it happens, it will make shorter the distribution line. It is possible because of the excess production that can be sold (marketable surplus). On the other hand, in the dry land, rice production is prioritized for household consumption. An organizational network involves upstream and downstream relationships in different processes and activities. It also generates value embodied in goods and services in the hands of the final customer, defined as the supply chain. The structure/line of the rice supply chain in East Java is very long, especially in the distribution system (Syaifullah, 2013). Hence, it pushes the price of rice to be high because each actor will take advantage of the high transportation cost to move from one place to another. In addition, the large number of rice distribution actors tends to widen the price disparity between grain and rice (Jamal & Erizal, 2006). Besides that, there are still many problems and risks to capital in each chain, from farmers to rice food business actors. Therefore, management of risk reduction/mitigation of capital is required. To supply chain integration to run smoothly, each business actor does not have capital problems. Hence, it can be ensured that when demand increases, farmers must be able to fulfill orders for business unit needs. Then business units are ready to carry out product processing, and business actors are prepared to distribute sales and services. The development of farmer corporations involves various upstream and downstream businesses that support each other in the corporate management system. Businesses in the upstream sector include the seed industry, fertilizers, pesticides, agricultural machinery, land processing services, cultivation businesses, and financing (Istiyanti et al., 2018).

Meanwhile, downstream businesses include product processing and packaging. The farmer corporation business/industry involvement demands synergistic, mutually reinforcing, and beneficial cooperation. Every effort is built simultaneously to produce a synergistic resultant, mutually reinforcing. If one business does not develop, it will become a limiting factor for corporate progress (Prasetyo & Setiani, 2020). Several studies have revealed that cooperatives positively contribute to poverty alleviation in rural areas and can improve people's welfare. In addition, cooperative organizations were formed to make regional and rural development successful (Ma & Abdulai, 2016).



## CONCLUSION

The main requirement for the establishment of a farmer corporation is the existence of solid farmer economic institutions. Farmer economic institutions are found in several regencies in East Java. The highest number of formed farmer economic institutions is in the Regency of Tulungagung and Bojonegoro. Some regencies have only one formed farmer economic institution. The highest number of formed farmer economic institutions can form farmer corporations which are essential for the growth and development of farmer corporations as the basis for improving farmers' welfare. The development of farmer corporations involves various upstream and downstream businesses that can positively contribute to poverty alleviation in rural areas and improve people's welfare.

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