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Characteristics of Farmer Group Administrators in Soybean (*Glycine Max L.*) Cultivation in Jember Regency

Henik Prayuginingsih[1,*)], Syamsul Hadi[1], Anisa Nurina Aulia[1], Muhammad Imanuddin[2]

[1]Agribusiness Study Program, Faculty of Agriculture, Universitas Muhammadiyah Jember, Jl. Karimata No. 49, Jember, East Java, 68121, Indonesia
[2]Agribusiness Study Program, Faculty of Agriculture, Universitas Muria Kudus, Jl. Lingkar Utara, Kudus, Central Java, 68121, Indonesia
[*)]*E-mail correspondence: henikprayuginingsih@unmuhjember.ac.id*

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ABSTRACT

The phenomenon of increasingly limited soybean production to meet domestic demand is caused by the suboptimal role of Poktan administrators. This is influenced by characteristics that affect soybean production/productivity. The purpose of this study is to identify the characteristics of Poktan administrators. This study is a descriptive quantitative analysis using a survey method. The research was conducted in Jember Regency in 11 villages and 8 sub-districts where soybean farming is practised in 2025, with a sample size of 50 people. The results of this study reveal that 1) the average age of respondents is 56.34 years, 2) the average level of formal education of respondents is classified as moderate to high, 3) the types of side jobs pursued by respondents include: traders, entrepreneurs, mechanics, livestock farmers, PIN suppliers, seedling partners, and teachers, and most (64%) of respondents did not answer, 4) the average number of dependents in the household was 3.38 people (classified as middle-class families), 5) the average length of time the respondents had been members and administrators of the farmer organisation was 21.84 years, 6) the average land area controlled by the respondents was 2.28 hectares, 7) the average area of land controlled by respondents and planted with soybeans is 1.31 hectares, 8) most respondents behave as high-level pioneers, and 9) the average productivity of soybean land in the study area is 1.15 tonnes per hectare.

Keywords: *characteristics; Poktan administrators; soybean commodity*

INTRODUCTION

Indonesia's soybean production in 2024 amounted to 230.21 thousand tonnes of dry beans, a decrease of 118,890 tonnes (down 34.06%) compared to the previous year, with Central Java Province contributing the most to the total soybean production in 2024, namely 30.80% (Pusdasi Pertanian Sekjen Kementan RI, 2025). According to data from the Central Statistics Agency (BPS), Indonesia's total soybean imports in 2025 will reach around 2.56 million tonnes, with around 90% of these imports coming from the United States. In general, according to the Community Participation Centre (2025), domestic soybean production is only able to meet around 20% of total national demand (previously 26%). Therefore, in order to meet soybean consumption needs, which average 3 million tonnes per year, around 80% needs to be imported, mostly from the United States, Brazil and Canada. This dependence means that the price of tofu and tempeh is vulnerable to global fluctuations and is not only an agricultural issue but also a matter of food sovereignty (Sukardi, 2026).

In 2024, 90.17% of soybean production in Indonesia was contributed by 10 provinces, with Central Java Province being the province with the largest soybean production in 2024, contributing 30.80% to national soybean production. In second place is East Java Province, which contributed 29.04% or 66,857 tonnes to production, down from 100,006 tonnes in the previous year. Looking at the development trend for the period 2020–2024, soybean production in East Java Province has declined by an average of 33.15%. Based on an average soybean consumption of 11.25 kg/capita/year, the total demand reaches 267–270 tonnes, while local soybean production reaches 66,857 tonnes in 2024. This means that only 24.90% of the soybean demand in East Java Province in 2024 will be met by local soybean production, with the remainder being met by imported soybeans. This condition is caused by limited production capacity and inability to compete with imported soybeans, so farmers tend to plant rice and corn and other types of secondary crops, especially since they have not received incentives from the government.

Jember Regency, as one of the production centres of 10 regencies as soybean **(***Glycine Max L.)* base areas in East Java Province (Soetriono et al., 2021), has experienced a significant decline in production in the last decade (Balitkabi, 2021 in Bardono, 2021). The 10 regencies in question are: Banyuwangi, Jember, Lamongan, Nganjuk, Bojonegoro, Trenggalek, Blitar, Ponorogo, Bangkalan, and Sampang. Among these regions, Jember Regency has experienced a significant decline in production, despite having the fifth-highest productivity level in East Java Province. One indicator of the above phenomenon is shown by the growth rate of soybean-based agribusiness in Jember Regency during the period from 2014 to 2023, which has experienced an average decline of at least 10% in terms of the number of business units (Hazmi et al*.,* 2018). Furthermore, there are differences in the factors causing the decline in soybean production according to the results of research by Zakaria (2010), Widowati and Alfina (2022), namely the increasingly low level of farmer participation in planting soybeans.

In 2025, data on the amount of soybean consumption in Jember Regency was not widely published officially, but based on the assumption that soybean consumption in Jember Regency reached around 12.23 kg per capita per year, the demand for soybeans was estimated to reach around 30–32 thousand tonnes per year based on a population of around 2.5–2.6 million people. On the other hand, the average soybean production in Jember Regency over the last 10 years has been around 15,699 tonnes per year, but the trend has continued to decline due to decreasing land area (Ilmi et al., 2023**)**. This situation indicates a significant gap between soybean production and demand, meaning that most of the demand for soybeans (around 50%) must be met through supplies from outside the region or imports. When comparing the trends in soybean production in East Java Province and Jember Regency, it is interesting to note that they have relatively similar trends, but the average productivity in Jember Regency exceeds the East Java average (Figures 1 and 2).

Given the declining trend in soybean stocks in Jember Regency and the simultaneous surge in production demand, a widening gap has emerged. The growing disparity between consumption needs and soybean production will have implications for slowing local economic growth and community life, including food security and sovereignty. This is because the demand for soybeans for the tofu and tempeh industry in Indonesia, including Jember Regency, accounts for more than 90% of the total demand, making us known as the country of tofu and tempeh. Therefore, according to Hulu (2023), given the gap between the demand for soybeans and its production, import policies must be able to suppress price increases so that the micro-economy can grow well.

The above view is also supported by the results of research by Widowati and Alfina (2022), which clearly states that the level of independent farmer participation in meeting soybean demand is still low

(4.21%). One of the factors contributing to this condition is the suboptimal role of farmer group administrators (Poktan) in influencing their members to plant soybeans. Jember Regency has 84,328.30 hectares of rice fields and 1,713 farmer groups (248 Gapoktan) with soybeans as their main commodity. There are 110 farmer groups (6.39%) spread across eight sub-districts out of 31 sub-districts. Given the relatively small number of farmer groups, it is necessary to empower them to participate in soybean cultivation (DPTHP Jember Regency, 2024).

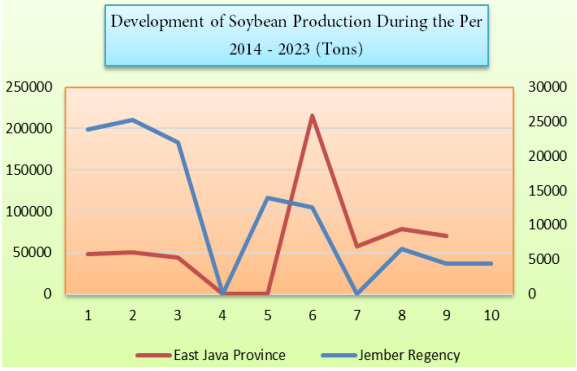

Figure 1. Development of Total Soybean Production in East Java Province and Jember Regency (Source: BPS East Java, 2024)

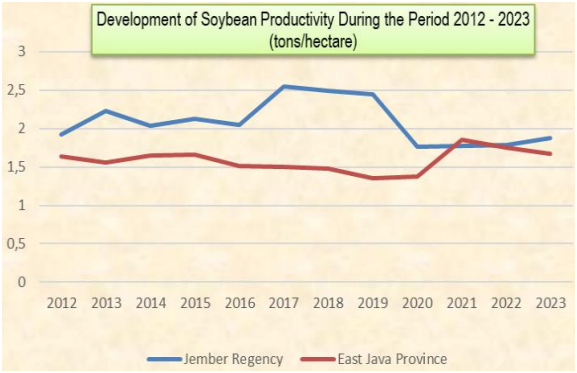

Figure 2. Development of Soybean Productivity in East Java and Jember Regency (Source: BPS East Java, 2024)

The suboptimal role of Poktan administrators in increasing participation levels is due to several variables, including the characteristics of Poktan administrators such as age, formal education, length of membership in the group, side jobs, number of dependents, and amount of land owned. These characteristics can influence their role as Poktan administrators in terms of the tasks and duties that need to be carried out in encouraging their members to participate in soybean cultivation. Therefore, Jufri et al. (2016) in Harnisa et al. (2021) stated that farmer groups play a role in increasing production and the success of soybean farming by motivating their members. Similarly, the results of research by Noormansyah and Dini (2016) reveal that there is a positive relationship between the characteristics and responses of farmers in the SL-PTT soybean programme in Ciamis Regency. Thus, farmer group administrators can provide motivation and support to their members to continue participating in soybean cultivation during the dry season. This is in line with the opinions of Rogers and Shoemaker (1981), Mardikanto (1993), and Lionberger (1960) in Noormansyah and Dini (2016) who state that individual characteristics are part of a person's personality and are inherent in a person, underpinning their behaviour at work and in other situations.

The factor of optimising the role of Poktan administrators in relation to their characteristics and its impact on the level of Poktan member participation cannot be separated from development communication theory. In the agricultural sector, development communication plays an important role in supporting the process of innovation diffusion, increasing farmer capacity, and strengthening farmer institutions. Through effective communication between agricultural extension workers, farmer groups, and development agencies, agricultural technological innovations can be disseminated more quickly and accepted by farmers. This shows that development communication contributes to increased agricultural productivity, efficient resource management, and the sustainability of agricultural production systems (FAO, 2021). This theory is also supported by Servaes (2020), who states that the communication process is important in increasing the community's capacity to understand development innovations. From a contemporary perspective, development communication is not only understood as a process of disseminating development information, but also as a mechanism that encourages community participation, social dialogue, and collaboration between various development actors in achieving sustainable development goals.

In relation to the characteristics of Poktan administrators, there are several research results that support this study, such as the results of research by Fahriyah et al. (2025) on farmers' perceptions of climate change in soybean farming, which shows that farmer characteristics such as age, farming experience, and education level influence farmers' decisions in implementing adaptation strategies that affect soybean productivity. Farmers with more experience and knowledge tend to be more adaptive to climate change, enabling them to maintain agricultural productivity.

Furthermore, research by Arifin et al. (2023) and Mardikanto and Soebiato (2019) found that the success of various agricultural development programmes is greatly influenced by the characteristics of farmer group leaders, such as: level of education, cosmopolitanism, farming experience, experience in leading groups, and institutional networks. Anantanyu (2011), Hadi et al. (2025), Ali et al. (2021), Aziz and Wardani (2025), and Harnisa et al. (2021), state that the leadership capacity of farmer group leaders has a significant effect on the level of adoption of agricultural innovations. In addition, it is also revealed that characteristics of administrators such as leadership, communication skills, and managerial skills are important factors in improving agricultural production performance.

The characteristics of farmer group administrators are important factors in supporting increased agricultural production, including for soybeans. This is because the characteristics of farmer group administrators will influence the performance of farmer groups, including their ability to adopt technology. Based on previous research, leadership or exemplary behaviour is part of the characteristics of farmer group administrators that can determine the level of participation of farmer group members in planting soybeans, in addition to other characteristics. However, studies on the pioneering characteristics of Poktan administrators are still limited in number, especially regarding their exemplary role in planting soybeans, which will be followed by Poktan members. Therefore, the purpose of this study is to reveal several characteristics of Poktan administrators in the phenomenon of soybean cultivation in Jember Regency.

RESEARCH METHOD

Type and Method of Research

This research is a quantitative descriptive study designed using a survey technique with a summative approach (Singarimbun & Sofiyan, 1987). The survey method was chosen because the target population for this type of activity is too large and spread across several sub-districts, and the aim is to reveal the characteristics or profile of Poktan administrators in soybean cultivation in the study area objectively and factually. The collected data was then processed, analysed, and discussed to draw inferential conclusions.

Research Location and Time Determination

The location chosen for this study is Jember Regency because this area is one of the ten largest soybean producing areas in East Java Province, whose production has been declining sharply year after year. In fact, the number of soybean production centres based on sub-districts has decreased from 18 in 2018 to eight in 2022. Another consideration is that the number of farmer groups cultivating soybeans in Jember Regency is only 6.39% of the total 1,713 farmer groups. The eight sub-districts include Tanggul, Kencong, Jenggawah, Puger, Balung, Jombang, Umbulsari, and Bangsalsari. The sample villages in these eight sub-districts were deliberately selected based on data obtained from the Jember Regency DTPHP in 2024. If there is more than one soybean production centre in the sample sub-district, the sample village location is deliberately selected based on the number of farmer groups cultivating the most soybeans. Furthermore, the sample farmer groups in the sample village are deliberately selected based on the number of farmer members cultivating the most soybeans. The sample village locations included: Jatisari & Jatimulyo Villages in Jenggawah Sub-district, Gambirono Village in Bangsalsari Sub-district, Klatakan Village in Tanggul Sub-district, Wonorejo and Kencong Villages in Kencong Sub-district, Keting Jombang Village, Paleran Umbulsari Village, Gumelar & Curahlele Villages in Balung Sub-district, and Wonosari Village in Puger Sub-district. This research was conducted over a full five-month period, specifically during the year 2025.

Determination of Sampling Units and Research Samples,

In this study, the sampling units were all farmer groups located in the sample villages and their members who cultivated soybeans, resulting in a total of 50 farmer groups selected using *purposive sampling*. The population in this study consisted of farmer group administrators (chairpersons/secretaries/treasurers), and one respondent was sampled from each sampling unit based on the criterion of having been a member of the farmer group for at least seven years, resulting in a total sample size of 50 respondents. Before collecting data in the field, the validity and reliability of the research instruments were tested on seven respondents based on their length of experience in soybean farming**.** The preliminary test on

respondents before the main study was conducted to ensure that the research instruments were valid and reliable.

Ethnography of the Socio-Cultural Environment

Jember Regency is one of the soybean production centres in East Java Province, which has strong agrarian social characteristics, where most of the community depends on the agricultural sector for their livelihood. In this rural social structure, farmer groups not only function as economic organisations but also as forums for social interaction that facilitate information exchange, production cooperation, and joint decision-making in farming activities. In the local context, farmer group administrators have a relatively important social position because they act as organisational drivers, mediators between farmers and agricultural extension workers, and as a source of reference for group members in determining farming decisions. The communication patterns that develop within farmer groups are generally interpersonal and based on social relationships that have been built over a long period of time, so that factors such as trust, farming experience, and the exemplary behaviour of group administrators are important aspects that influence the level of participation of farmer group members in agricultural cultivation activities. Moreover, the community of Jember Regency is administratively part of the tapal kuda (pandalungan community) area, which has a strong paternalistic culture, so that the attitudes and actions/behaviour and leadership of the Poktan administrators are easily emulated by Poktan members.

The culture of mutual assistance and cooperation among farmers is still quite strong in agricultural activities in the research area, especially in land cultivation, planting, and plant maintenance activities. These social values influence the dynamics of communication and decision-making processes within farmer groups, including in determining the choice of commodities to be cultivated. Therefore, an understanding of the local social and cultural context is important to provide a more comprehensive picture of the behaviour of farmer group administrators and the dynamics of member participation in soybean cultivation. Taking into account this social context, this study not only examines the characteristics of individual farmer group leaders quantitatively, but also understands the social dynamics behind the role of group leaders in influencing the decisions of farmer group members in soybean cultivation activities.

Data Collection Techniques

The data types in this study are primary data collected from farmer group administrators and secondary data collected from various related institutions. Data collection was carried out in two ways, namely through *in-depth interviews* and FGDs. *The in-depth interviews* were conducted using interview guides and structured questionnaires about the characteristics of farmer group administrators in soybean cultivation, with an average duration of ± 55 minutes. The *FGD* technique was also carried out on several samples in several sample villages and was concentrated in the homes of GaPoktan administrators. Through the GaPoktan administrators, FGD participants, who in this case were Poktan administrators, were invited to participate in the research activities. At the beginning of the event, the research team provided an overview of this research, including its objectives, expected results, benefits, and follow-up on the research results. One member of the research team led the FGD, which lasted an average of ± 2.5 hours per sample village or per GaPoktan, while another member recorded the discussion process and other important matters. Subsequently, the questionnaire was coded, the data was processed and analysed, and a discussion was held to determine whether the research objectives had been achieved.

Data Analysis

The analysis used to answer the research objectives was conducted on the characteristics of the Poktan administrators through frequency tables and easy-to-read and understand informative images. The characteristics of the Poktan administrators included age, education, side jobs, number of family dependents, area of land owned, area of land planted with soybeans, length of time joining the farmer group, leadership/role model, and soybean land productivity. The data was then analysed descriptively, and the characteristics of leadership/role model were analysed using a Likert scale scoring approach, whereby quantitative ratio (numerical) data was processed and presented objectively in percentages or other units. This technical analysis aims to review the overview of the data set being studied without seeking to find relationships between data. In the descriptive method, data can be presented in graphical form, such as tables or diagrams, and also in numerical form, such as average calculations using Excel software.

RESULTS AND DISCUSSION

The study of the characteristics of the Poktan administrator respondents was intended to clarify and sharpen the discussion of the main issues under investigation. The characteristics of the Poktan administrator respondents to be discussed include: age, education level, position in the Poktan, side jobs, number of dependents, area of land owned, area of land planted with soybeans, length of time joining the farmer group, leadership, and productivity of soybean farmland. Figure 3 shows that the average age of the Poktan administrator respondents in the study area was 56.34 years (range 30 to 70 years). This indicates that the respondents are of productive age (15–64 years) according to *the International Labour Organisation* (ILO) and Prayitno (1987). People of this age group are physically and mentally capable of working and striving optimally.

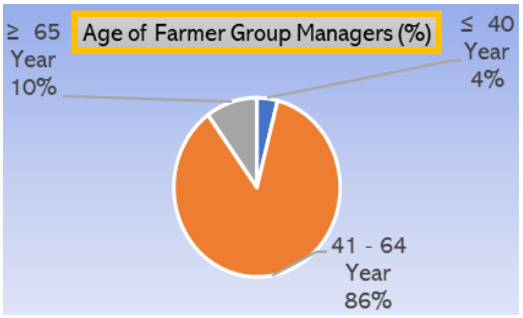

Figure 3. Distribution of Poktan Management Respondents Based on Age (Source: Processed Primary Data, 2025)

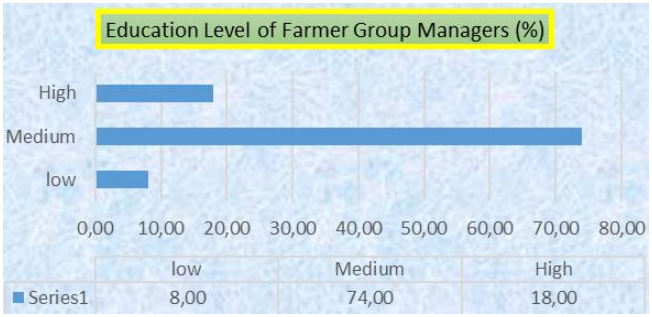

Figure 4. Distribution of Poktan Management Respondents Based on Education Level (Source: Processed Primary Data, 2025)

Figure 3 also revealed that more than 90% of Poktan management respondents had adequate physical strength and stable mental health, enabling them to run their businesses well. In addition, the respondents' mindsets and behaviours tended to be more mature and adult-like, including in providing guidance, motivation, and decision-making to increase the income of farmers and their families. At this mature age, Poktan management respondents can rationally consider what commodities need to be cultivated on their land in order to obtain specific agricultural profits and support key national food security programmes, such as striving for self-sufficiency in soybeans, compared to those who are older. This phenomenon is in line with the results of research by Santoso et al. (2020) as cited in Anggani, et al. (2024), which confirms that the age of farmers can affect their agricultural activities, especially in managing their farms, and has an impact on their physical and mental abilities to participate. As a farmer ages, their ability to manage their farm declines.

The age of these Poktan administrators is in line with the results of research by Gusti et al. (2021) and Hasyim (2006) in Ryan et al. (2018) in Gusti et al. (2021), which confirms that age can influence a person's decision-making and can also be a measure of the success of farming activities. Farmers of productive age usually work better and more optimally than farmers who are no longer of productive age. Similarly, according to Novia (2011) in Gusti et al. (2021), older farmers usually have relatively less understanding but have the advantage of recognising the conditions of agricultural land.

Figure 4 shows that the average level of formal education of the Poktan management respondents is moderate to high (12.06 years) with a range of 6–18 years. The educational level of these respondents means they have a broad attitude and knowledge, which has implications for rationality in thinking, decision making, working, and influencing others. However, this knowledge does not necessarily have to be obtained from formal education, but can also be obtained from non-formal education such as internships, training, seminars, and workshops. This is in line with Soekartawi (2005) opinion that the level of formal education is one of the factors that influences a person to think in a better and more rational direction. This view is also supported by Gusti et al. (2021), who state that the level of formal education can have a significant influence on a person's mindset. Farmers with a high educational background will tend to have more advanced thinking compared to farmers with a low educational background.

Based on structure, the distribution of Poktan administrators in the research area is mostly (85%) as chairpersons, with the rest occupying the positions of secretary and treasurer, respectively, at 6% and 8%. These structural positions in Poktan will greatly determine and influence their members in decision-

making, including in determining what agricultural branches to plant. In general, farmers who are trusted by members to become group administrators are large-scale farmers who have extensive knowledge of agriculture, as indicated by their higher level of formal education. They are able to motivate and guide their members, help solve problems, act as mediators and educators, and even serve as pioneers for their members. This formal education is very much in line with the views of Fharaz et al. (2022) in Anggani et al. (2024), who state that farmers' ability to absorb and process information is influenced by their level of education. A person with a higher level of education will have an impact on their mindset and attitude, making them more rational in terms of accepting and applying the information and innovations they obtain.

In addition to farming, there are several other professions that Poktan administrators engage in as side jobs, as shown in Figure 5. The types of side jobs currently undertaken by the Poktan management respondents include: traders, entrepreneurs, mechanics, livestock farmers, PIN suppliers, seedling partners, and teachers, while the majority (64%) of respondents did not answer this question. It is strongly suspected that the respondents who did not answer are mostly working as farm labourers, construction workers, market workers, traders, or simply do not have a side job. These types of side jobs will affect the performance of farmer groups, including the limited information available to members regarding the dilemma of whether or not to plant soybeans during the planting season. Therefore, farmers will plant soybeans if their land is very suitable with adequate irrigation water availability because soybean farming is very simple, so most of their time is spent on side jobs.

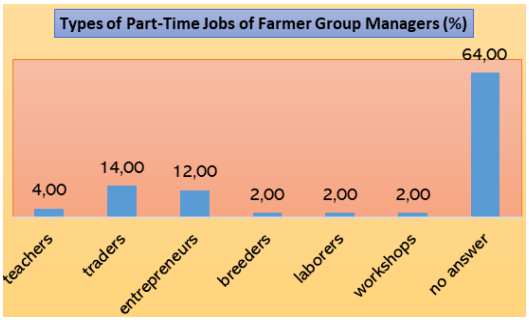

Figure 5. Distribution of Poktan Management Respondents Based on Type of Work Side Jobs (Source: Processed Primary Data, 2025)

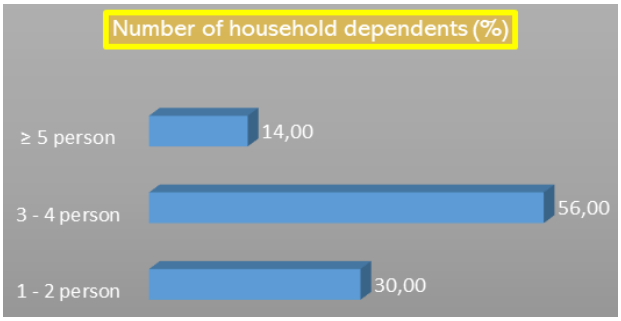

Figure 6. Distribution of Poktan Management Respondents Based on Number of Dependents Households (Source: Processed Primary Data, 2025)

The side jobs managed or pursued by 36% of the respondent Poktan administrators are aimed at increasing their total household income. The time allocation devoted to these side jobs will affect the performance of the farmer group and the productivity of their soybean farmland. Various considerations were given as reasons why the respondents took on side jobs, apart from increasing their total household income, such as continuing their jobs before becoming Poktan administrators (as teachers, mechanics, and other self-employed jobs). This condition is in line with Rozali's (2018) view in Sholeh and Luluk (2021) that side jobs are additional jobs that a person has outside of their main job, such as a farmer whose main job is farming, and whose side jobs include selling phone credit or working as a construction labourer, among others. Generally, these jobs exist because the income from the primary job is insufficient to meet basic daily needs.

This phenomenon is also in line with the results of research by Rubery et al. (2024), which revealed that part-time or side jobs are the most common form of flexible work in the United Kingdom, accounting for 24% of all employees, 75% of whom are women. There are two main issues related to these side jobs, namely productivity and part-time work. Part-time work will greatly affect the productivity level of the main job, even though it can help to live a productive life, which is not only an opportunity to learn, develop, and maximise skills and talents, but also an opportunity to avoid work contexts that can cause stress and health problems. In fact, the findings of He et al. (2022) reveal that as the level of part-time work among smallholder farmers increases, there is a significant reduction in the area planted with wheat and corn. This condition also justifies that the decline in soybean production in this study area is partly due to the side jobs of Poktan administrators and will, in the medium term, set an example for other farmer group members.

Furthermore, regarding the number of dependents in the households of the respondent Poktan administrators, Figure 6 shows in more detail that the average number of dependents in the study area is 3.38 people, ranging from 1 to 6 people per household. Based on the criteria according to BPS (2024), most (56%) of the number of dependents of Poktan administrators in the study area were between 3 and 4 people, 30% were between 1 and 2 people, and the rest (14%) were 5 people. When compared with the national conditions, it can be explained that 58% of farmer households have 1–2 dependents, 40% of farmer households have 3–4 dependents, and 2% have more than 5 dependents. This condition shows that the distribution of Poktan managers in the research area is not symmetrical with the national condition and its implications will have an impact on the level of labour availability in the agricultural sector.

In relation to the number of household dependents, Mantra (2003) argues that families with 4-5 members are classified as medium-sized families. In general, families with more members tend to be more motivated to work in order to provide for and improve the welfare of their family members, including providing labour to support their ongoing businesses. In addition, the number of dependents will affect the availability of labour and employment opportunities in the agricultural sector. It should be noted that as of August 2024, the agriculture, forestry, and fisheries sectors absorbed 28.18% of Indonesia's total workforce. This condition will also influence farmers' considerations or decisions in determining the most rational commodities to cultivate on their land.

The characteristics of family dependents in the study are quite interesting to compare with the results of other studies and the views of other experts. Siregar's (2022) view in Sinaga et al. (2025) reveals that age and the number of family dependents significantly affect worker productivity in palm oil companies. However, another research indicates that the number and characteristics of family do not always show consistency and even indicate contradictory relationships. For example, the results of research by Ginting and Lindawati (2025) as cited in Sinaga et al. (2025) found that the number of dependents and employment status can have a negative impact on productivity, and that age does not always contribute positively to work productivity levels. The phenomenon in this case indicates that the greater the number of dependents, the lower the productivity of the farmland, and vice versa. The more members there are in the household, the heavier the burden on the head of the family, resulting in suboptimal performance.

Figure 7 illustrates that the average respondent managing a farmer group in the research area had been a member and manager of the farmer organisation for 21.84 years (ranging from 4 to 40 years). The length of time a member has been with an organisation will affect their loyalty and level of participation, as well as their influence on the organisation's performance. Theoretically, there is a relationship between individual characteristics and the level of participation, such as age, education level, type of work, length of membership in the organisation, income level, and involvement in development activities, which will greatly affect the level of participation (Slamet, 1994, as cited in 2FrameIT, 2013).

The length of time a farmer has been a member or administrator of a farmer group is closely related to the aspects of group cohesiveness and conformity. This is in line with Riadi (2021) opinion, who states that group cohesiveness increases group productivity and performance, conformity to group norms, improves work enthusiasm and satisfaction, facilitates communication within the group, reduces hostility within the group, and increases a sense of security and self-esteem. Conformity refers to the ability to adjust to the behaviour of group members and the rules that have been agreed upon and implemented by a group. Group cohesiveness is the level of solidarity and positive feelings of group members towards their group, which tends to influence togetherness, mutual cooperation, and participation.

According to Forsyth (2006) in Riadi (2021), group cohesiveness is the unity that is formed within a group, enjoying interactions with one another, and having a certain amount of time to be together, within which there is a high spirit of work. Therefore, there are four aspects of group cohesion, namely: 1) social strength, which is the desire within each member to remain in the group; 2) unity within the group, which is a feeling of belonging to the group and having a sense of morality related to membership in the group; 3) attraction, which is when each member is more interested in their own work group than in specific members; and 4) group cooperation, which is when each member has a greater desire to work together to achieve the group's goals. Therefore, according to Wijaya and Serafica (2023), the general impact of cohesiveness includes influencing the level of member satisfaction, so that the likelihood of leaving the group tends to be small.

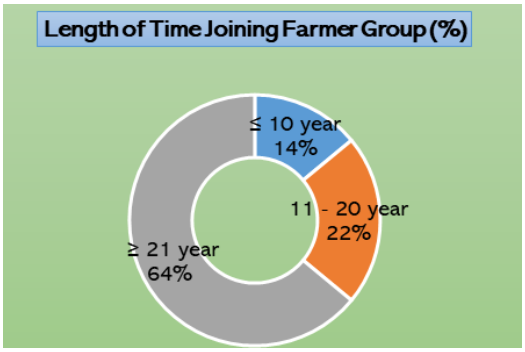

Figure 7. Distribution of Poktan Management Respondents Based on Length of Membership in the Group (Source: Processed Primary Data, 2025)

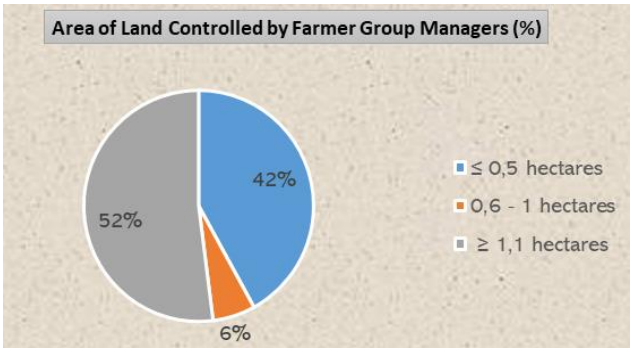

Figure 8. Distribution of Poktan Management Respondents Based on Land Area Controlled (Source: Processed Primary Data, 2025)

Figure 8 shows that the average land area controlled by Poktan administrators per farmer group reached 2.28 hectares, ranging from 0.25 to 16 hectares. This condition indicates that the average Poktan administrator respondents in the study area were classified as large or wealthy farmers (BPS, 2025). In general, farmers tend to agree that Poktan administrators should be wealthy farmers because they are assumed to be capable of leading, managing and running the organisation well so that it can progress. This is in line with the findings of a study conducted by Mutmainah and Sumardjo (2014) that there is a significant positive relationship between a person's leadership and the empowerment process. Therefore, a person's *empowering* abilities will be able to influence and strengthen the capacity of the institution and its members in proportion to their needs.

Wiwik (1998) in Adwiyana et al. (2016) argues that there are several factors related to the level of participation, including the socio-economic characteristics of farmers, which are a benchmark for participation, such as the characteristics of land area ownership. Empirical evidence regarding the influence of socio-economic factors is the result of research by Adwiyana, et al. (2016), which revealed that most respondents had land areas between 0.4 and 0.5 hectares, all of which were used for soybean cultivation. The status of land ownership is that the land is owned by the farmers themselves, who are also the cultivators. This is because farmers who cultivate their own land and rented land are the main recipients of saprodi assistance for GP-PTT. The findings of this study indicate that government incentives can encourage high participation among farmers in soybean cultivation.

Figure 9 above also illustrates that the average land area controlled by farmers and planted with soybeans is 1.31 hectares, ranging from 0.1 to 7.5 hectares. Most (46%) farmers plant soybeans on a land area of ≤ 0.5 hectares, some (32%) on an area of between 0.6 and 1 hectare, and 22% on an area of more than 1 hectare. This condition can be explained by the fact that the area of rice fields planted with soybeans, based on the average total area of rice fields controlled by farmers (= 2.28 hectares), has sufficient potential, reaching 64.82%. This is because Poktan administrators tend to set an example or lead their members to always plant soybeans in order to support the realisation of national food security. However, 32% of farmers plant soybeans on all of the land they control because the agroclimatic factors are only suitable for rice cultivation and to prevent the rice fields from being left fallow.

Regarding the characteristics of the area of land planted with soybeans, Table 1 provides an overview of the various reasons given by Poktan administrators for the proportion of land planted with soybeans. The facts on the ground show that the majority of Poktan administrators (46%) plant soybeans because it has become a tradition every dry season. This indicates that most of these respondents are consistent and steadfast in cultivating their land with soybeans despite the risks. The next most common reason (18%) was to support the government's programme to achieve national food security. This indicates that these respondents are committed, obedient and compliant to the government, of course with all the consequences. In general, this group of respondents are classified as advanced farmers who have broad knowledge and a relatively high level of formal education.

Furthermore, the leadership style with indicators of exemplary/pioneering behaviour of a Poktan administrator while leading its members so far. The characteristics of this type of Poktan administrator will be a reflection and reference for farmer group members in their thinking, attitudes, and actions, including in decision-making regarding the selection of commodities for farming branches in certain

seasons. Figure 10 shows that most of the Poktan administrator respondents behaved as pioneers or role models with a high category (= average score of 14.36) in determining their choice of farming with soybeans during the dry season. Even only 12% of Poktan management respondents who behaved as pioneers in the moderate and low categories indicated that, in general, the level of exemplary behaviour/pioneering of Poktan management in the study area was relatively high, and in theory could influence its members to follow suit.

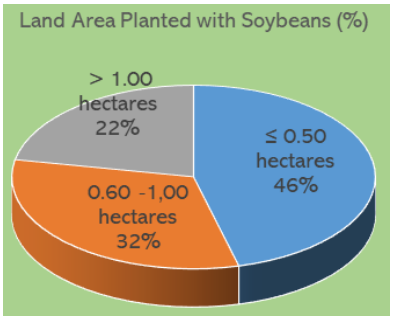

Figure 9. Distribution of Poktan Management Respondents Based on Land Area Cultivated with Soybeans (Source: Processed Primary Data, 2025)

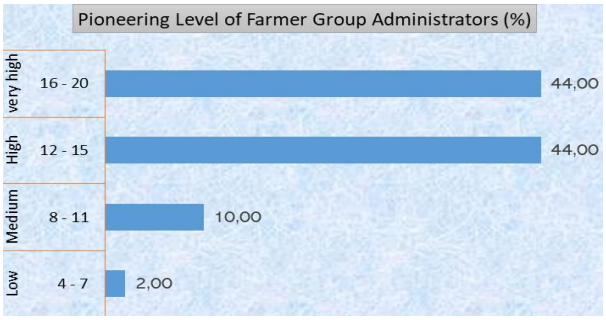

Figure 10. Distribution of Poktan Management Respondents Based on the Level of Leadership of Farmer Group Management (Source: Processed Primary Data, 2025)

The relationship between leadership style (leadership) and the level of participation of its members is supported by the results of research by Setiawan et al. (2015), which revealed that the relationship between farmer contact leadership behaviour and the level of participation of farmer group members shows a significant positive relationship. This is in line with the results of research by Ye et al. (2022), which states that exemplary behaviour by leaders with higher authority has a stronger influence on organisational identification, participation, and real commitment, such as active contribution and loyalty from members.

Without intending to impose a relationship between the behaviour of the leader of a farmer group (organisation) and the participation of its members, there is nevertheless an indirect but clear relationship between leadership behaviour and organisational identification and member participation for several reasons. The exemplary nature of a leader is a source of identification and positive emotions, characterised by the fact that an exemplary leader is usually consistent in their words and actions, represents the core values of the organisation, is fair, transparent and respects their subordinates, and shows empathy and concern for members. Therefore, when members see leaders like this, they tend to feel valued and seen as an important part of the organisation, believe that the organisation has a direction and values that are worth following, and are proud to be part of the organisation because of the positive image of its leaders. This is supported by Tajfel and Turner's (1986) Social Identity Theory in Raniah et al. (2020), which states that a person will feel more identified with a group if its leader becomes a symbol of the group's positive values. Another reason is the relationship between a leader's exemplary behaviour and positive emotions and identification with an organisation, with the following logical flow: a leader demonstrates exemplary behaviour, builds trust and respect, increases feelings of pride and emotional attachment, encourages identification with the organisation, and ultimately increases participation, loyalty, and performance. This is also supported by the Transformational Leadership Theory proposed by Bass and Avolio (1994) in Harsoyo (2022), which states that a transformational leader inspires followers through vision, integrity, and strong moral exemplary behaviour, thereby forming a high level of commitment and identification with the organisation.

Figure 11 shows that the average productivity of soybean commodity land in the study area is 1.15 tonnes per hectare, which is lower than the national average and the average for East Java Province in 2023. Nationally, the average soybean productivity in 2023 was 14.56 quintals per hectare, and the highest average soybean productivity, exceeding 20.00 quintals per hectare, was only found in one province, namely Central Kalimantan. The average soybean productivity in East Java Province reached 1.69 tonnes per hectare of irrigated rice fields, and even on rainfed land it could reach 1.42 tonnes per hectare (BPS, 2023).

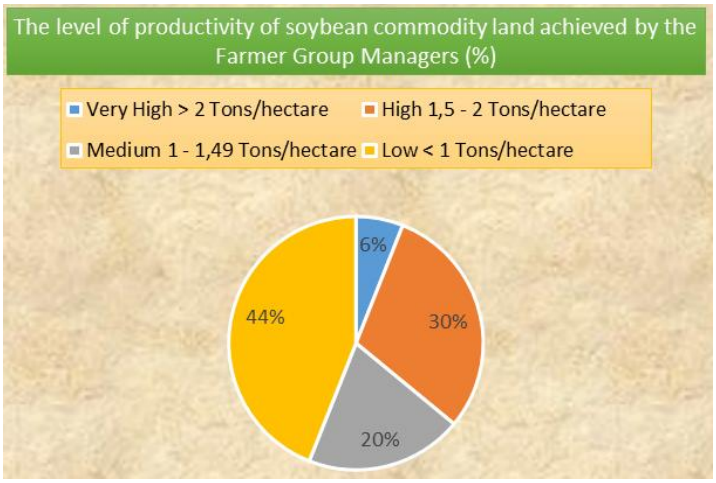

Figure 11. Distribution of Poktan Management Respondents Based on the Level of Productivity Achieved by Farmer Group Management (Source: Processed Primary Data, 2025)

Furthermore, empirically, 6% of Poktan manager respondents had land productivity above 2 tonnes per hectare, although the majority (44%) only achieved below 1 tonne per hectare. Meanwhile, 30% of Poktan manager respondents had average land productivity equal to the national and East Java provincial averages. The potential to increase soybean land productivity is very high, as evidenced by the fact that 6% of Poktan manager respondents achieved more than 2 tonnes per hectare, and this will have implications for the level of participation of farmer group members in planting soybeans. This is because farmer members will participate and follow the advice if there is evidence of its benefits and also the example set by those giving the advice. Therefore, the level of soybean field productivity achieved by Poktan administrators will have a significant influence on their members, as described in Social Identity Theory by Tajfel and Turner (1986) as cited in Raniah et al. (2020).

There are several factors why 44% of Poktan management respondents have soybean field productivity levels below 1 ton per hectare, and 2% even only reach 0.01 tons per hectare. This condition is influenced by several factors, including weak agricultural intensification because only a small portion of the land is planted with soybeans, so it is considered a side business. In addition, another contributing factor is that intensification efforts are not supported by other factors, such as poor seed selection, inability to irrigate at the right time and with the right amount of water due to a poor irrigation system, and failure to stimulate flowering and fruiting at the right time or even without similar treatment because some respondents believe that organic fertiliser is sufficient. Another contributing factor is poor land cultivation techniques, where most respondents who are Poktan administrators use no-till farming, which results in low soil fertility. Some of the muddy land textures rarely have adequate drainage channels, which should actually be made with a distance of 3-4 metres between beds and a length adjusted to the land conditions, 50 cm wide and 30 cm deep (Susanto, 2023). Another contributing factor is that some of the Poktan administrators do not use mulch on soybean farmland, either natural or synthetic, because crop residues from the previous season are sold for animal feed. However, according to Susanto (2023), in order for soybean plants to grow optimally, mulch needs to be used to suppress weeds and maintain moisture.

In general, another interesting phenomenon can be explained, namely several reasons why Poktan administrators are encouraged to plant soybeans during the dry season. Respondents who planted soybeans just to try it out accounted for 8% because they saw that in the previous dry season, some farmers had made considerable profits from farming. The decisions of these respondents were dominated by dilemma considerations, but they would run their farms intensively so as not to suffer losses. In general, this group of respondents had small to medium-sized plots of land and low to medium levels of education. Those who had reasons such as the need for intercropping with other staple crops, such as protecting staple crops such as chillies, and saving on production costs, accounted for 4% each. In general, this group of respondents has a very rational mindset and considerations in deciding and executing all their actions.

Table 1. Distribution of Poktan Management Respondents Based on Reasons for Planting Soybeans in the Study Area in 2025

No	Reasons Farmers Plant Soybeans	Frequency (Number of People)	Percentage
1	It is a routine tradition every dry season	23	46
2	Relatively low production costs	2	4
3	Following the neighbouring plot (following the surrounding planting pattern)	1	2
4	Just trying it out	4	8
5	Rainfed land (Limited irrigation water)	1	2
6	Lombok plant protection (intercropping system)	2	4
7	Supporting government programmes	9	18
8	Not sure if they have to plant soybeans	2	4
9	Forced to plant soybeans	1	2
10	Did not respond	5	10
	Total	**50**	**100**

Source: Primary Data Processed, 2025

Table 1 also reveals that 2% of Poktan respondents planted soybeans because they felt compelled to do so as they had no other choice. This feeling of compulsion stemmed from the fact that they were Poktan treasurers who were obliged to set an example and provide moral guidance to their members to plant soybeans. As for the reasons for continuing to plant soybeans on all or part of the land they control, as well as for Poktan administrators who have reduced the area under cultivation in this study area, a similar phenomenon occurs in Banyuwangi Regency in the southern part of East Java Province. Fifty per cent of farmers in the area no longer plant soybeans on their rice fields, yards and fields. Farmers have shifted their land management to other commodities such as dragon fruit, oranges, tobacco and other horticultural products. Furthermore, the average scale of soybean farming among respondents who still grow soybeans is 0.49 hectares, while those who grow oranges have an average of 1.1 hectares and those who grow dragon fruit have an average of 4.68 hectares, consisting of rice fields, dry fields and yards. In fact, as many as 28.95% of citrus and dragon fruit farmer respondents were forced to rent other people's land for the purpose of expansion. Additionally, not all of the respondents' land is planted with soybeans due to the unpredictable climate, the plummeting price of soybean output, and trauma from the previous season (Hazmi et al., 2018).

CONCLUSION

Some characteristics of farmer groups with experience in soybean cultivation are as follows: 1) the average age of Poktan management respondents in the study area was 56.34 years (range 30 to 70 years), 2) the average level of formal education of Poktan management respondents was moderate to high (12.06 years) with a range of 6 to 18 years, 3) the types of side jobs currently engaged in by the respondents of the farmer group administrators include: traders, entrepreneurs, mechanics, livestock farmers, PIN suppliers, seedling business partners, and teachers, while most (64%) respondents did not answer this question, 4) the average number of dependents in households in the study area was 3.38 people (classified as middle-class families) with a range of 1–6 people per household. 5) on average, Poktan management respondents in the study area had been members and managers of the farmer organisation for 21.84 years (ranging from 4 to 40 years), 6) the average land area controlled by Poktan administrators per farmer group reached 2.28 hectares, ranging from 0.25 to 16 hectares, 7) the average land area controlled by farmers and planted with soybeans was 1.31 hectares, ranging from 0.1 to 7.5 hectares, 8) most of the respondent Poktan administrators behaved as high-level pioneers (average score of 14.36) in determining their choice of farming soybeans during the dry season, and 9) the average productivity of soybean land in the study area is 1.15 tonnes per hectare, which is lower than the national average and the average for East Java Province in 2023. The novelty of this research result is the pioneering or exemplary role of Poktan administrators in encouraging their members to participate in soybean cultivation. Therefore, in practical terms, this research result implies the need to strengthen the role of Poktan administrators as pioneers of innovation, increase technical capacity in soybean cultivation, and support extension programmes and policies that can increase soybean productivity at the farmer level.

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