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THE ROLE OF THE AGRICULTURAL EXTENSION CENTER IN SUPPORTING INSTITUSIONAL DEVELOPMENT IN JENAWI DISTRICT, KARANGANYAR REGENCY

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ABSTRACT:

Farmer empowerment and strong institutions through access to information, training, and resources can increase farmer independence and build synergistic collaboration to create collaboration between farmers, government, and other stakeholders. This study aims to analyze agricultural institutions in the fostered area of the Agricultural Extension Center (BPP) of Jenawi District, Karanganyar Regency, Central Java. The methods used were field visits and qualitative data collection through Focus Group Discussion (FGD) with farmers and agricultural extension workers. The analytical technique applied was narrative analysis to understand the views and experiences of informants. The results of the study indicate that farmer institutions and agricultural extension have an important role in increasing farmer productivity and welfare, as well as in supporting technology and information transfer. The BPP institution is under the Infrastructure and Extension Division, the Department of Agriculture, Food and Fisheries of Karanganyar Regency. Agricultural extension institutions run programs referring to the vision, mission, objectives, and performance indicators. Farmer institutions as the main actors require support from the government to help increase farmer capacity both in managing their farmer groups and in their abilities in the agricultural sector.

Keywords: *Agricultural extension institutions, Agricultural extension, Farmer institutions, Farmers*

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1. INTRODUCTION

Agriculture is a vital sector in a country's economy, especially in developing nations. This sector faces various complex challenges, such as climate change, market price fluctuations, pest and disease outbreaks, and limited resources. Social challenges, such as inadequate support from agricultural institutions, further exacerbate these conditions. These issues not only affect agricultural productivity but also the welfare of farmers and national food security (Simanjuntak & Erwinsyah, 2020).

Agricultural extension serves as a bridge between technology and good farming practices, as well as a means to empower farmers. Through agricultural extension, farmers gain the latest information on crop cultivation techniques, resource management, and market access. Empowering farmers and strengthening institutions through access to information, training, and resources can enhance farmers' self-reliance and foster synergistic collaboration within agricultural institutions. This collaboration brings together farmers, government, and other stakeholders to address complex challenges such as market price fluctuations and pest outbreaks, as well as to formulate supportive policies within agricultural institutions (Ramin, 2023). Strengthening agricultural extension institutions is crucial in this context.

Several studies indicate that strong institutions can enhance the effectiveness of agricultural extension and technology transfer to farmers (Sihombing, 2022). Research conducted in Sukoharjo Sub-District, Wonosobo Regency, found that the role of agricultural extension institutions as a means to educate and improve farmers' welfare is highly significant. Their primary task involves enhancing farmers' competencies by

providing solutions to the challenges they face (Yohan et al., 2023). Moreover, another study highlights that agricultural extension agents serve as a critical bridge between research institutions, technology providers, and farmers – playing a vital role in advancing agricultural development (Lamatungga et al., 2024). Thus, effective agricultural institutions and proactive extension agents—serving as catalysts for change—can significantly enhance farmers' capacity and welfare.

The Agricultural Extension Center (BPP) plays a vital role in empowering farmers and strengthening agricultural institutions by serving as: an agricultural data and information hub that provides farmers with critical knowledge to enhance productivity and farming efficiency; a learning and agribusiness consulting center that facilitates the adoption of innovative technologies and improved farming practices; and a partnership network hub that connects farmers with key stakeholders including government agencies and private sector players to support agricultural business development (Marliati et al., 2008). Research demonstrates that Agricultural Extension Centers (BPP) significantly enhance farmers' capabilities by providing essential agricultural skills and knowledge for effective cultivation practices. Furthermore, BPPs facilitate farmers' access to government assistance programs and help establish valuable networking opportunities to support their agricultural enterprises. As such, BPPs serve as a crucial institutional mechanism for farmer empowerment and agricultural institutional strengthening across Indonesia (Khairunnisa et al., 2019).

Farmers in Jenawi District face numerous challenges including an aging workforce, poorly organized farmer groups, limited access to information and capital, and extension workers overwhelmed by administrative duties rather than field assistance - all exacerbated by market volatility and climate change. The Jenawi Agricultural Extension Center (BPP) addresses these issues by strengthening farmer institutions, improving extension services, and facilitating access to technology and financing, ultimately enabling farmers to develop sustainable agricultural systems and achieve greater self-reliance.

Strengthening agricultural institutions and extension services will not only boost productivity but also enhance food security and farmer welfare at both local and national levels (Sihombing, 2022). Realizing these goals demands an integrated, multi-stakeholder approach with coordinated action between government bodies and civil society organizations (Munib et al., 2024). Harnessing the latest innovations and technologies to enhance efficiency and productivity, while facilitating sustainable technology and knowledge transfer, can significantly contribute to ecosystem sustainability. This involves integrating sustainable farming practices that maintain a critical balance between agricultural production and environmental conservation (Kamakaula, 2023). This aligns perfectly with Jenawi BPP's vision and mission to develop professional, creative, and innovative agricultural entrepreneurs.

Based on the previously explained context, there is a clear need for urgent action from both the Jenawi Agricultural Extension Center (BPP) and farmers to address existing problems. This study aims to describe the role of BPP in developing agricultural institutions in Jenawi District. The agricultural institutions in question consist of agricultural extension institutions and farmer organizations. Strengthening these agricultural institutions is expected to enhance participation, thereby leading to increased farmer incomes and improved welfare.

2. METHOD

The study was conducted through field visits at the BPP Hall of Jenawi District, Karanganyar Regency, Central Java on October 3, 2024. Employing a qualitative approach, the research involved multiple key informants and stakeholders as primary data sources. According to Sugiyono (2012), qualitative research was carried out in natural environments, employing the researcher as the fundamental data collection tool, a methodological choice designed to maximize informational depth and breadth.

The research location was selected for its diversity in farmer demographics, crop varieties, socioeconomic conditions, and agricultural challenges, enabling a holistic understanding of agricultural sector dynamics, with participants comprising Jenawi District farmers engaged in cultivation and marketing, along with field extension agents specializing in crops, livestock, forestry, and plant pest observation (POPT), all purposively sampled (4 farmers, 6 BPP extension agents, and 5 academics) from multiple stakeholders to ensure objective data collection.

In this study, data collection was conducted through Focus Group Discussions (FGDs). According to Sugiyono (2012), Focus Group Discussion (FGD) is a qualitative data collection method involving structured discussions within small groups to explore participants' perspectives and experiences on specific topics. Documentation was also utilized as a supplementary instrument to gather quantitative data regarding farmer demographics and agricultural conditions. The collected qualitative data were subsequently analyzed using qualitative methods, with particular emphasis on narrative analysis to comprehensively interpret participants' stories and responses to the research questions.

3. RESULTS AND DISCUSSION

3.1 General Overview of The Area

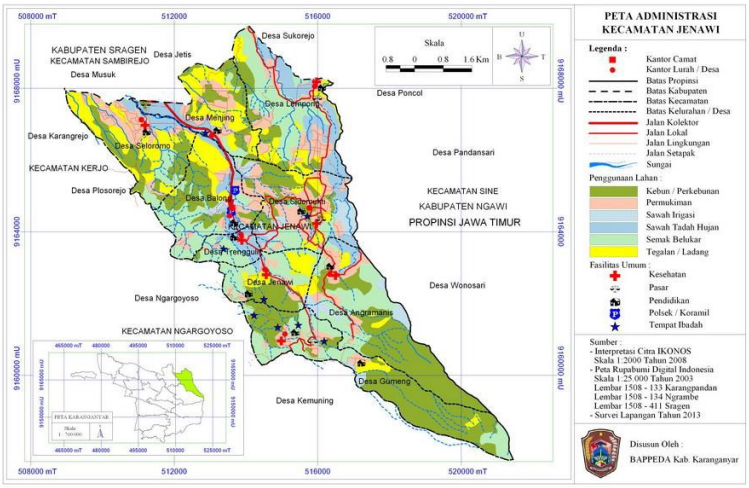

Figure 1. Jenawi District Map

Agricultural systems in Jenawi District (Karanganyar Regency) span three subsectors those are food crop cultivation, horticultural production, and plantation agriculture. According to data from BPS (2023) Jenawi District covers a total area of 5,608.28 hectares (ha), with 495.90 ha (8.84% of total area) comprising irrigated rice fields (sawah). The sub-district capital is located in Jenawi Village at an average elevation of 750 meters above sea level (masl), with the jurisdiction comprising nine villages: Seloromo, Menjing, Lempong, Balong, Sidomukti, Trengguli (the capital), Anggrasmanis, and Gumeng.

Jenawi District primarily cultivates rice and horticultural crops, including coffee, cloves, and tobacco, with plantation areas covering 56.28 hectares (2023 data). Additionally, horn bananas (pisang tanduk) are widely grown in household gardens, demonstrating significant potential for further development. The sub-district possesses substantial agricultural potential, with most residents relying on farming and plantation sectors for their livelihoods. Consequently, establishing effective and efficient agricultural institutions is crucial to support sustainable agricultural development in the region.

Jenawi District has gained recognition as a production center for Cavendish bananas, cultivated extensively by local farmers. This variety offers several advantages, including shorter cultivation cycles, higher yields per bunch, and extended shelf life compared to other banana types. Development efforts for Cavendish bananas previously included collaborations with Sebelas Maret University, particularly in seedling improvement programs. However, in recent years, Cavendish cultivation has stagnated, diminishing its status as a primary commodity in the region.

Farmers in Jenawi District cultivate a diverse range of agricultural commodities beyond Cavendish bananas, including food crops, horticultural products, secondary crops (palawija), and forest products like coffee and rubber. Recent developments include the adoption of organic rice farming through certification with the Organic Farmers Association (APOKAT) of Karanganyar Regency, as well as expanded coffee cultivation with active participation by farmer groups in national coffee festivals across Indonesia, demonstrating successful agricultural diversification and market-oriented production.

3.1.1 Agricultural Extension Institutions

Based on Presidential Regulation No. 154 of 2014 oncerning Extension Institutions for Agriculture, Fisheries, and Forestry extension services (hereinafter referred to as "extension") are defined as a participatory learning process designed to empower primary stakeholders (farmers, fishers, forest communities) and agribusiness actors to voluntarily self-organize and access critical resources - including market information, technologies, financing, and other inputs - in order to enhance productivity, operational efficiency, income and welfare while promoting environmental sustainability, with these services being delivered through formal institutions comprising both government agencies and community-based organizations mandated to implement extension programs.

According to Minister of Agriculture Regulation No. 3/2018, government agricultural extension institutions are entities established by central and regional governments to implement agricultural extension

duties and functions, with such institutions (including both governmental and community-based organizations mandated to conduct extension services) being further defined under Law No. 16/2006 concerning SP3K, while specifically in Karanganyar Regency, the establishment of the Agricultural Extension Center (BPP) was formalized through Regent's Decree No. 527/74/2023, under which the organizational structure of Jenawi BPP operates.

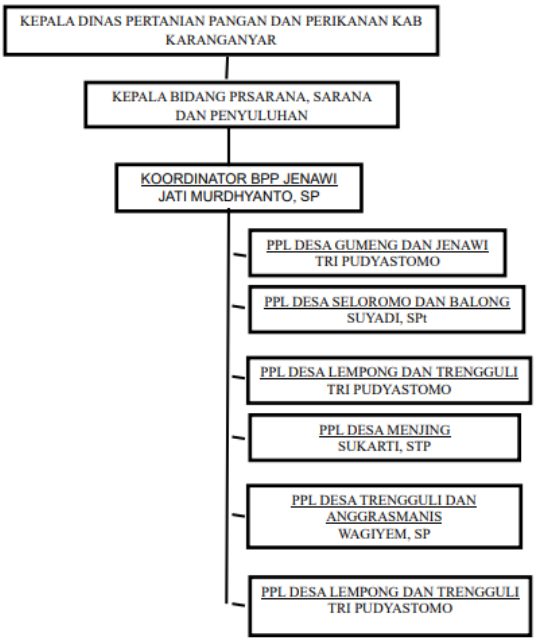

Figure 2. Institutional Structure of Agricultural Extension in Jenawi District

Pursuant to Karanganyar Regent's Decree No. 527/74/2023 on the Establishment of Agricultural Extension Centers, the organizational structure of BPP in Karanganyar Regency features a clear chain of command: the Head of the Agriculture Office serves as the primary authority, delegating responsibilities to the Head of Infrastructure, Facilities and Extension Division at the regency level, who then oversees BPP Coordinators at the sub-district level (requiring coordination with local sub-district heads/Camat), with these coordinators subsequently supervising Field Extension Officers who directly engage with farmer institutions and individual farmers, supported by a total staff complement of 11 personnel at BPP Jenawi.

Table 1. Field Agricultural Extension Officers and Their Service Areas

No	Name of PPL	Role	Mentored Villages
1	Jati Murdhyanto, S.P	BPP Coordinator and Jenawi Subsidized Fertilizer Verification - Validation Team 1	-
2	Suyadi, S.Pt	Admin Simluhtan, Tani Card and Admin e-RDKK	1. Seleromo Village 2. Balong Village
3	Tri Pudyastomo	Admin e-RDKK	1. Gumeng Village 2. Jenawi Village 3. Lempong Village 4. Trengguli Village
4	Sutarjo, SP	Admin e-RDKK and Admin for Konstra Tani	
5	Sukarti, S.T.P	Admin e-RDKK	1. Menjing Village
6	Wagiyem, SP	Subsidized Fertilizer Verification - Validation Team 2	1. Trengguli Village 2. Anggrasmanis Village

Source: Processed Secondary Data

The BPP (Agricultural Extension Center) serves as a hub connecting agricultural extension workers, primary stakeholders (farmers), and agribusiness actors, operating under the oversight of regency/municipal extension implementation bodies established by local government regulations; at the sub-district level, its core functions include developing extension programs aligned with regency/municipal directives, implementing planned extension activities, and disseminating critical agricultural information encompassing technologies, production inputs, financing options, and market linkages (Sukmawani, 2022).

Jenawi Agricultural Extension Center (BPP), Central Java features three key facilities: a meeting hall, a library, and an administrative building that also serves as an extension workers' meeting space, all playing vital roles in supporting local farmers' success. Focused on farmer development, BPP Jenawi provides training on modern agricultural technologies, sustainable land management, and product diversification, while maintaining strong partnerships with farmers, government agencies, and stakeholders to enhance food security and farmer welfare. Despite challenges like climate change and market volatility, BPP Jenawi remains committed to keeping agriculture economically viable for farmers.

Extension workers serve as crucial bridges between government institutions and farmers, delivering equitable support to both organized and independent farmers. Their comprehensive mentoring covers five key roles: (1) Advisor (technical guidance), (2) Technician (practical solutions), (3) Facilitator (stakeholder linkages), (4) Organizer (group planning including RDKK/Penyuluhan programs), and (5) Change Agent (innovation adoption). This structured approach ensures effective implementation of programs like the Definitive Group Needs Plan (RDKK) while addressing all farmers' needs equally (Effendi et al., 2021)

3.1.2 Farmer Institutions

Farmer institutions (kelembagaan petani) are local organizations comprising membership-based groups or cooperatives where farmers collectively address agricultural challenges (Uphoff, 1992). hese institutions encompass both formal organizations (e.g., farmer groups) and informal rules governing behavior and social relationships, including concrete social units that embody these norms (Anantanyu, 2011).

Under Minister of Agriculture Regulation No. 67/2016, farmer institutions are developed by, for, and of farmers to strengthen their collective interests. In rural areas, they play critical roles in accelerating socioeconomic development, improving access to agricultural information, financing, infrastructure, and markets, and facilitating innovation adoption. The regulation specifies four institutional types: farmer groups (kelompok tani), farmer associations (gapoktan), agricultural commodity associations, and national commodity councils.

According to SIMLUHTAN (Agricultural Extension Management Information System), Jenawi District has 48 registered farmer groups out of 79 existing groups, indicating only 61% national integration. The remaining 39% operate informally, limiting their access to subsidized fertilizers under Minister of Agriculture Regulation No. 10/2022. This gap highlights systemic challenges in institutional inclusivity and resource distribution.

The predominant farmer institutions in Jenawi are basic farmer groups (kelompok tani), with each village typically having one farmer association (gapoktan). Other specialized institutions include Microfinance Institutions (LKM), Self-Sufficient Agricultural and Rural Training Centers (P4S), Village Forest Community Institutions (LMDH), and Forest Farmer Groups (KTH). In detail, the following are the farmer institutions within the operational area of BPP Jenawi.

Table 2. Farmer Institutions in Jenawi District

No	Farmer Institutions	Total
1	Farmer Groups	79
2	Federation of Farmer Groups (Gapoktan)	9
3	Self-reliant Agricultural and Rural Training Center (P4S)	1
4	Village Forest Community Institution (LMDH)	12
5	Forest Farmer Group (KTH)	12

Source: Processed Secondary Data (2024)

Farmer Groups (Kelompok Tani), established as a government initiative, serve as fundamental units for implementing sustainable agricultural practices and enhancing productivity through collective farm management (Riani et al., 2021). Regulated under Minister of Agriculture Regulation No. 67/2016, these groups function as learning platforms, cooperative vehicles, and production units aimed at improving yields, incomes, and livelihoods.

Farmer Group Associations (Gapoktan) are established to empower farmers by addressing various agricultural challenges, with core activities including agricultural information dissemination, partnership programs, coordinated supply of farming inputs, and collective marketing of produce, while key indicators of

their success in improving farmer capacity encompass enhanced land utilization, increased farming productivity, optimized agricultural output, and advanced post-harvest management systems (Rosidin et al., 2023).

Self-reliant Agricultural and Rural Training Centers (P4S) serve as farmer-led learning hubs where experienced farmers share improved agricultural techniques with peers through hands-on training. These community-based institutions, entirely built, owned, and operated by farmers. Widyarini & Euriga (2024) said that The Self-reliant Agricultural and Rural Training Center (P4S) is a community-based institution established, owned, and operated entirely by farmers. Its primary purpose is to implement training programs for farmers and fishers covering three key sectors: (1) agricultural production, (2) rural industries, and (3) village enterprises. The P4S operates under five fundamental principles: self-reliance, community-based governance, partnership development, multi-stakeholder synergy, and environmental sustainability.

The Village Forest Community Institution (LMDH) is a community-based organization established by forest-adjacent residents to promote sustainable forest conservation while wisely utilizing forest resources, working in collaboration with the Jenawi District Agricultural Extension Center (BPP) to support agroforestry systems that integrate agricultural cultivation with forest ecosystem preservation, with Nursetiawan et al. (2022) emphasizing that economic self-sufficiency serves as a key objective in enhancing the livelihoods of communities practicing sustainable forest management.

Forest Farmer Groups (KTH) are associations of farmers living near forest areas who sustainably utilize forest resources for agriculture, receiving guidance on sustainable forest management and training on integrating farming activities with forest products such as timber, fruits, and other raw materials. According to Putri et al., (2023), KTHs, as implementers of social forestry programs, require multi-stakeholder support from forest communities, government agencies, NGOs, private companies, and market actors to ensure their success.

Effective farmer organizations operate on three core principles: (1) shared vision between leadership and members, (2) majority-rule decision-making through voting mechanisms, and (3) full transparency to prevent internal conflicts. These institutions implement a collective economic model ("saling bagi rejeki") that ensures equitable benefit-sharing while maintaining an integrated value chain approach (upstream to downstream/hulu-hilir). Crucially, they uphold strict accountability for agricultural assistance received from Karanganyar Regency's Food and Fisheries Office, ensuring resources are never misappropriated.

3.1.3 Farmer Economic Instituions

Farmer Economic Institutions are organizations established by, for, and of farmers to advance and strengthen their core economic interests in agricultural enterprises, with all 9 farmer associations (Gapoktan) in Jenawi having received PUAP grants of IDR 100 million each for business and group development, while several villages also operate Agricultural Microfinance Institutions (LKMA) that function as farmer-funded lending entities, sustained by community trust in financial management, capital provision, and strict adherence to savings-loan principles (tertib simpan pinjam), collectively forming the economic institutional framework in Jenawi District.

Table 3. Farmer Economic Institutions in Jenawi District

No	Farmer Economic Institutions	Total
1	Agricultural Microfinance Institutions (LKMA)	9
2	Rubber Farmer Group Cooperative	1

Source: Processed Secondary Data

Agricultural Microfinance Institutions (LKMA) provide essential financial services—including loans and savings—to rural communities and farmers, enabling access to capital for agricultural investments such as fertilizers or equipment, with repayments structured around harvest cycles. According to Sibuea et al. (2022) LKMAs empower farmers through three key benefits: (1) improved access to financing, (2) enhanced farm productivity and production, and (3) strengthened rural economic development, as demonstrated by their impact in BPP Jenawi's operational area.

Farmer Economic Institutions in Jenawi District have developed Agribusiness Microfinance Institutions (LKMA), with each village operating its own LKMA. In their development, Menjing and Seloromo Villages now host the most advanced LKMAs in Jenawi, with combined assets reaching 2.5 billion IDR by 2023. These institutions provide financial services not only to farmers but also to other village residents, demonstrating their role in broader rural financial inclusion.

Strengthening LKMA institutions is crucial for supporting farmer economies in Jenawi District, with key strategic measures including capacity and capability building through: (1) enhancing managerial skills of LKMA operators, (2) strengthening capital accumulation, (3) providing mentoring and guidance, and (4) implementing robust monitoring and evaluation systems (Hermawan & Andrianyta, 2012). While in Menjing Village, a Rubber Farmer Group Cooperative has also been developed as an additional economic institution.

3.2 The Role of Agricultural Extension Instituions and Farmer Organizations

Farmers in Jenawi District are predominantly elderly with elementary to junior high school education, cultivating small landholdings of 1,000-2,500m², where some farmer groups have successfully established strong organizational dynamics that foster unity and support agricultural development, while others remain inactive due to low participation interest, resulting in ineffective institutional functioning.

Consistent with Daniel et al. (2021), group dynamics are measured through key elements including shared objectives, organizational structure, task functions, mentoring processes, internal cohesion, group atmosphere, peer accountability, and operational effectiveness, where low dynamism groups require targeted motivation to actively guide members toward collective success through improved understanding of these dynamics indicators, with farmer age significantly influencing all group activities in achieving established goals and enhancing overall group vitality.The prevailing phenomenon is that most leaders of farmer groups (kelompok tani) and farmer associations (gapoktan) belong to the older generation, primarily due to youth migration to factory work, the elders' extensive experience in social activities, and their established stakeholder networks - a trend supported by Yudha et al. (2023) who found youth reluctance to engage in agriculture stems from limited farmland, low wages, and lack of farming experience/exposure.Leaders play a pivotal role in group development, serving as innovators, communicators, motivators, and controllers (Mustopa et al., 2023) with effective chairpersons guiding farmers through the TAQWA principle: Tawaduk (humility toward plants, peers, and stakeholders), Qanaah (contentment despite uncertain yields), and Kuwat (physical/mental resilience that benefits families, individual farmers, and the collective group alike).Additional factors motivating leaders to sustain social initiatives for farmer income improvement include: (1) strong family support, particularly from spouses who actively participate, (2) faith in the process (belief that livelihood provisions are divinely ordained), and (3) personal commitment to institutional work - especially challenging in farmer organizations as it requires consistent motivation and morale-building among members.

Findings from Field Interviews and Discussions at BPP Jenawi District:

1. Agricultural Extension Institutions
    - The institutional structure of BPP is integrated with other sectors, lacking focus. Decision-making and policy implementation predominantly follow top-down directives from central authorities.
    - Field extension officers (PPL) at BPP Jenawi primarily handle administrative tasks, manage agricultural support applications, and update data, shifting their focus from on-the-ground farmer problem-solving and extension delivery to bureaucratic functions.
    - For operational and extension activities, officers often use personal funds, as BPP lacks a dedicated budget to support their fieldwork needs.
    - While training programs exist for skill and capacity development, these opportunities have become scarce, leading officers to rely on social media, webinars, or forgo professional development altogether.
2. Farmer Instituions
    - Currently, various types of farmer organizations with specific purposes or programs exist, such as P4S (Agricultural Training Centers), P3A (Water User Associations), KWT (Women's Farmer Groups), Gapoktan (Farmer Group Associations), Poktan (Farmer Groups), and KTH (Forest Farmer Groups), all designed to better empower farmers while encouraging them to more actively engage with agricultural extension officers and develop their skills.
    - Several farmer institutions underperform due to unfavorable social conditions and low participation motivation, as members perceive limited practical and economic benefits from organizational involvement.
    - The declining interest among younger generations in agriculture has resulted in farmer groups being predominantly managed by older farmers, while younger farmers increasingly prefer individual farming operations.

Field research reveals a fundamental shift in extension services, where the core roles of agricultural extension workers as catalysts, dynamic facilitators, and enablers have been increasingly supplanted by administrative duties. This aligns with Wastutiningsih et al. (2024) findings that while government programs aim to strengthen extension services, excessive administrative burdens – particularly from digital reporting systems – have paradoxically undermined professional field performance. The proliferation of mandatory applications has created significant operational challenges, with digitalization becoming a dual-edged sword that complicates rather than enhances frontline service delivery.

Indonesia's Law No. 16/2006 on Agricultural Extension Systems mandates that extension institutions (governmental, community-based, and/or private) must facilitate technology and knowledge transfer through formal/informal structures, yet field realities necessitate functional adaptations where extension workers should evolve into: (1) peer-learning facilitators, (2) information validators for farmer-sourced data, and (3) on-demand agribusiness consultants addressing practical farming challenges.

In the agricultural sector, there are issues such as farmers' lack of interest in organizing due to the perceived lack of practical benefits from organizations, as well as problems with insufficient generational succession in farming. To address this, optimizing the potential of agricultural commodities and opportunities can be pursued by mobilizing specific farmers, such as through ventures like processing horn bananas, managing forest tourism, or coffee cultivation and agro-tourism. By enhancing more economically viable and beneficial potentials, it is hoped that job opportunities can be created, farmers can be encouraged to organize, and the interest of the younger generation in agriculture can be fostered.

4. CONCLUSION

Based on the discussion regarding the field visit conducted at the Agricultural Extension Center (BPP) of Jenawi District, it can be concluded that Jenawi District consists of 9 Microfinance Institutions (LKM), 1 Rubber Farmers' Group Cooperative, 1 Agricultural Training Center (P4S), 2 Village Forest Community Institutions, 4 Forest Farmers' Groups (KTH), 1 Farmers' Compost Group, and several Women Farmers' Groups (KWT). The institutional structure of the Jenawi District Agricultural Extension Center (BPP) falls under the Infrastructure and Extension Division of the Food and Fisheries Agriculture Office in Karanganyar Regency. The institution implements programs based on its vision, mission, objectives, and performance indicators. The challenges faced by agricultural extension institutions include a lack of support from the central government, extension workers being more focused on administrative tasks than field technicalities, difficulties in developing farmers' organizations, insufficient operational funding, and limited decision-making authority due to relatively top-down programs. The government also needs to pay attention to extension institutions as entities that have direct engagement with farmers.

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