



Rice Farmers' Perceptions of the Role of Agricultural Extension Workers in Barumun District, Padang Lawas Regency

Sri Kurniawati^{1*}, Sutan Pulungan², Rasmita Adelina³, Yusriani Nasution⁴, Nggelem Ginting⁵

Universitas Graha Nusantara, Padangsidempuan, Indonesia

Corresponding Author: Sri Kurniawati : kurniawatisri1975@gmail.com

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ABSTRACT

This study aims to analyze rice farmers' perceptions of the role of agricultural extension workers in Barumun District, Padang Lawas Regency. The research focuses on two main dimensions, namely the role as an educator and as a facilitator. The study employs a descriptive quantitative approach using a survey method involving 30 lowland rice farmers selected through purposive sampling. Data were collected through a Likert scale questionnaire and analyzed using frequency tabulation and percentages. The results show that extension workers are considered effective in providing explanations on cultivation techniques, information on pests and diseases, guidance on the use of agricultural inputs, and field training. As facilitators, extension workers assist farmers in accessing subsidized fertilizers, certified seeds, government programs, farmer group activities, and problem-solving through deliberation. Overall, the role of agricultural extension workers is positively perceived by farmers.

INTRODUCTION

Agricultural extension is a form of information dissemination and a learning process that can act as an agent of change in social transformation. Agricultural extension provides learning opportunities for farmers so that they can access the latest information in the agricultural sector. Agriculture is one of the sectors that plays a significant role and serves as the main sector supporting the livelihood of communities in Indonesia. This is because the agricultural sector remains the primary source of income for the majority of Indonesia's population.

Indonesia is an agrarian country with great potential in agriculture, supported by extensive land resources and favorable climatic conditions that enable agricultural systems to function effectively and contribute significantly to farmers' economic activities. However, agriculture has recently become less significant in driving improvements in farmers' economic conditions. This situation is influenced by several factors that discourage people from choosing farming as a profession. Farmer groups, as institutional platforms for farmers, are currently in an unstable position and experience complex dynamics.

The role of agricultural extension workers is increasingly important for the advancement of the agricultural sector in Indonesia. Extension activities are expected to function as agents of change for farmers so that they are encouraged to fully engage again in farming activities. Extension workers play several roles, including as educators, leaders, and advisors. Agricultural extension workers are individuals who carry the responsibility of encouraging farmers to change their old ways of thinking, working, and living into new approaches that are more aligned with the development of modern agricultural technologies. Extension workers must be able to foster changes in knowledge, attitudes, skills, and competencies among the farmers they assist.

Agricultural extension workers also function as agents of behavioral change for farmers by encouraging farming communities to improve their capabilities and become more independent in making decisions, ultimately leading to better livelihoods. Agricultural extension aims to improve farmers' knowledge and skills and transform their attitudes and behavior from traditional farming practices toward more modern agricultural systems.

However, in practice, the equality between extension workers and farmers has not been fully realized in the field. The relationship between them often resembles that of a teacher and student, meaning that the interaction has not yet reflected a balanced partnership. Agricultural extension workers also face various challenges, including limitations in human resources, funding, supporting facilities, and coordination among institutions.

Barumun District currently has nine agricultural extension workers responsible for assisting 16 villages and one urban village across the district. However, not all extension activities run effectively. Field observations indicate that agricultural extension workers are still often underestimated by farmers. Several phenomena contribute to the declining interest in extension services, including the rapid technological transformation in agriculture and farmers' preference for oil palm plantation commodities rather than food crops.

Based on these conditions, it is necessary to conduct a deeper study on the perceptions of rice farmers toward the role of agricultural extension workers in Barumun District, Padang Lawas Regency. Farmers' perceptions will be measured based on the role of extension workers as educators and facilitators to determine the extent to which these roles have been effectively carried out.

LITERATURE REVIEW

Agricultural Extension

Agricultural extension is an integral part of agricultural development aimed at improving farmers' capacity through non-formal education processes. According to Rogers (2003), extension is a communication system designed to disseminate innovations so that they can be adopted by the target community, in this case farmers. Extension not only functions to deliver technical information but also to build trust and stimulate the gradual adoption of new technologies.

In Indonesia, agricultural extension is regulated by Law Number 16 of 2006 concerning the Agricultural, Fisheries, and Forestry Extension System. Within this regulation, extension is positioned as a continuous empowerment process. This indicates that extension does not merely involve knowledge transfer but also encourages changes in farmers' behavior, attitudes, and ways of thinking so that they become more adaptive to change and innovation.

The Role of Agricultural Extension Workers

The role of agricultural extension workers is complex and multidimensional. Narso et al. (2018) classify the role of extension workers into several main categories, including educator, facilitator, motivator, and liaison. As educators, extension workers are responsible for delivering technical information related to cultivation practices, fertilization, plant protection, and other farming techniques. Meanwhile, as facilitators, extension workers act as intermediaries between farmers and various resources such as financial institutions, government assistance programs, and agricultural markets.

Efendi et al. (2024) state that the success of an agricultural extension system depends greatly on the synergy between extension workers, farmers, and supporting institutions. Extension workers need access to up-to-date information and continuous training support to perform their roles effectively. Without systemic support, the role of extension workers will weaken, resulting in slower innovation adoption and lower agricultural productivity.

Educator Theory in Agricultural Extension

As educators, extension workers perform a primary function in delivering systematic, measurable, and easily understandable knowledge. The diffusion of innovation theory developed by Rogers (2003) explains that extension workers act as change agents who bridge new knowledge and its end users, namely farmers. For the diffusion process to run smoothly, extension workers must deliver information using local language, cultural context, and participatory approaches.

Soraya (2020) found that extension workers who provide contextual and practical information tend to be more accepted by farmers. In the study, farmers who understood the application of superior seeds based on the Sapta Usahatani concept were more successful in increasing productivity compared to farmers who only received general information. This indicates that the effectiveness of extension education depends heavily on the relevance of the material to field conditions.

Facilitator Theory in Agricultural Extension

The role of agricultural extension workers as facilitators is expected to support farmers' needs in carrying out farming activities. As facilitators, extension workers provide solutions and ease access both in the learning process and in improving farming enterprises.

Widodo and Hartono (2022) found that extension workers who actively facilitate farmer group activities contribute directly to increased cooperation and efficiency in farm management. Through regular meetings, farmer deliberations, and mediation in local policies, extension workers strengthen the functionality of farmer institutions.

Farmers' Perception

Farmers' perceptions of extension workers are a key indicator of the effectiveness of extension programs. Perceptions are formed through direct experience, frequency of interaction, and the benefits perceived by farmers. Soraya (2020) notes that the higher the level of farmers' involvement in extension activities, the more positive their perceptions of the role of extension workers.

Rogers (2003) also states that the adoption of innovation is strongly influenced by the credibility of extension workers and the compatibility of innovations with farmers' local values. When farmers feel that extension workers understand their real-life conditions, their perceptions of extension workers improve and encourage active participation.

Conceptual Framework

The conceptual framework of this study is based on the idea that the role of extension workers as educators and facilitators influences farmers' perceptions. These perceptions determine the level of acceptance and adoption of agricultural innovations. Socio-demographic factors such as age, education, and farming experience are also considered in identifying differences in perceptions among respondents.

Based on theoretical studies and previous research, the hypothesis of this study states that the role of extension workers as educators and facilitators influences the perceptions of lowland rice farmers in Barumon District.

METHODOLOGY

This study employed a quantitative approach aimed at analyzing rice farmers' perceptions of the role of agricultural extension workers based on empirical data obtained from the research location. Based on its objectives, this study can be categorized as explanatory research because it explores and explains

the phenomenon of rice farmers' opinions regarding the role of extension workers in Barumun District, Padang Lawas Regency. In terms of the study objective, this research also incorporates elements of qualitative research with a phenomenological approach; however, its implementation involves quantitative measurement using a Likert-scale questionnaire.

Research Location and Time

The study was conducted in Barumun District, Padang Lawas Regency. The location was selected because it is the regency capital and has a number of active agricultural extension workers and farmer groups. In addition, the location is easily accessible, which facilitates the data collection process. The research was conducted over four months, from February to June 2025.

Population and Sample

The research population consisted of lowland rice farmers assisted by agricultural extension workers in Barumun District. Respondents were determined using purposive sampling, a sampling technique based on the objectives of the study. The sample consisted of 30 rice farmers selected based on criteria such as age, education level, and farming experience.

Data Collection Techniques

Research data were collected through:

1. **Literature study, by reviewing and citing opinions from various** sources such as books, journals, and previous research related to the role of extension workers.
2. Questionnaires, consisting of a list of questions distributed to farmers and developed based on indicators of the extension workers' roles as educators and facilitators.
3. Direct interviews, conducted to obtain additional explanations from respondents.
4. Documentation study, used as evidence of research implementation.

Types and Sources of Data

The data used in this study consist of:

- Primary data, obtained directly from respondents through questionnaires and interviews.
- Secondary data, obtained from official documents such as farmer group data from the SIMLUHTAN system and reports from related institutions.

Research Variables and Parameters

The variable in this study is the role of agricultural extension workers. Based on Law Number 16 of 2006, extension workers have four main roles. However, this study focuses on two dominant roles observed in the field:

1. Extension workers as Educators, including providing explanations on cultivation techniques, field demonstrations, training, and technical guidance.

2. Extension workers as Facilitators, including assisting farmers in accessing subsidized fertilizers, certified seeds, government programs, strengthening farmer groups, and market access.

Data Analysis Techniques

The data analysis technique used in this study is quantitative descriptive analysis. Respondents' perceptions were measured using a three-point Likert scale:

1 = Disagree

2 = Neutral

3 = Agree

The collected data were tabulated in the form of frequencies and percentages to describe the tendency of farmers' perceptions regarding each indicator of the extension workers' roles. The results of the analysis were then interpreted to explain the level of effectiveness of extension workers' roles as educators and facilitators in Barumon District.

RESEARCH RESULTS AND DISCUSSION

Respondent Characteristics

Respondent characteristics are an important aspect of this study because they may influence farmers' perceptions of the role of agricultural extension workers. Based on the research results, the respondents' age ranged from 22 to 62 years, with an average age of 37.7 years. The majority of respondents were in the productive age group, particularly within the range of 40–49 years. This condition indicates that most rice farmers assisted by extension workers are still physically active and productive in farming activities.

Based on gender, out of 30 respondents, 28 people (93.3%) were male and 2 people (6.7%) were female. This shows that rice farming activities in Barumon District are still dominated by men. Women are generally more involved in supporting activities such as post-harvest processing and household farming activities.

In terms of education, the average length of respondents' education was approximately 9.7 years, equivalent to junior high school to early senior high school level. This level of education indicates that most respondents have sufficient basic literacy skills to understand extension materials.

The respondents' farming experience ranged from 4 to 42 years, with an average of 18 years. This relatively long experience indicates that farmers possess sufficient practical knowledge in managing farming activities, enabling them to objectively assess the role of extension workers in the field.

Farmers' Perceptions of the Role of Extension Workers as Educators

The analysis results show that the majority of respondents agreed that agricultural extension workers have performed their role as educators effectively. Farmers stated that extension workers provide clear and understandable explanations of rice cultivation techniques, such as the *jajar legowo* planting system. In addition, extension workers are considered to frequently provide updated information regarding pests and diseases that affect rice fields.

Respondents also stated that extension workers provide guidance on the appropriate use of fertilizers and pesticides in terms of type, dosage, and application timing. Extension workers have also organized training sessions or direct demonstrations in the fields regarding proper rice crop management. This indicates that the learning process is not only conducted theoretically but also through direct field practice.

Furthermore, extension workers assist farmers in understanding how to maintain soil fertility to ensure continued productivity. This technical assistance becomes an important factor in improving the quality of rice cultivation.

Overall, these findings indicate that the role of extension workers as educators has been effective in improving farmers' knowledge and technical skills.

Farmers' Perceptions of the Role of Extension Workers as Facilitators

In the facilitator dimension, the majority of respondents stated that extension workers help them obtain subsidized fertilizers and certified seeds. Extension workers also facilitate farmers' access to government assistance programs related to agriculture.

In addition, extension workers play a role in organizing farmer group activities such as meetings or regular gatherings in the village. These activities strengthen coordination among farmers and facilitate the dissemination of agricultural information.

Extension workers also help connect farmers with agricultural markets, particularly for selling harvested rice or paddy. In certain situations, extension workers assist in resolving agricultural problems through deliberation, such as issues related to grain prices or irrigation water shortages.

These results indicate that the role of extension workers as facilitators is not limited to technical aspects but also includes institutional and socio-economic aspects of farming communities.

DISCUSSION

The findings of this study indicate that farmers' perceptions of the role of agricultural extension workers in Barumun District are generally positive. This suggests that extension workers have carried out their educational and facilitative functions in accordance with farmers' expectations.

Theoretically, these findings are consistent with the concept of extension as a non-formal educational process aimed at changing farmers' knowledge, attitudes, and skills. The role of extension workers as educators is reflected in the successful transfer of cultivation technology and the improvement of farmers' understanding. Meanwhile, their role as facilitators is reflected in their ability to connect farmers with various resources and government programs.

However, there is still room for improvement, particularly in increasing the intensity of field visits and adjusting extension materials to the specific needs of farmers. A more participatory and contextual approach is expected to enhance the effectiveness of extension services in the future.

Overall, the results of this study emphasize that the success of agricultural extension programs is determined not only by the content of the information delivered but also by the quality of interaction and the relevance of the programs to farmers' needs.

CONCLUSIONS

Based on the research results, it can be concluded that rice farmers' perceptions of the role of agricultural extension workers in Barumun District fall into a positive category. In the educator dimension, extension workers are considered capable of providing clear explanations of cultivation techniques, delivering updated information about pests and diseases, providing guidance on the use of agricultural inputs, and conducting field training and demonstrations.

In the facilitator dimension, extension workers are perceived to play a role in helping farmers obtain subsidized fertilizers and certified seeds, facilitating access to government programs, organizing farmer group activities, connecting farmers with markets, and assisting in problem-solving through deliberation.

Overall, the role of extension workers has been effective in supporting the improvement of farmers' capacity and access to resources, although improvements are still needed in terms of the intensity of assistance and the adjustment of extension materials to local conditions.

RECOMMENDATIONS

1. Agricultural extension workers need to increase participatory approaches and the intensity of field assistance so that extension materials become more contextual and better aligned with farmers' needs.
2. Local governments should support the improvement of extension workers' capacity through continuous training and the provision of supporting facilities for extension activities.
3. Future research is recommended to examine the role of extension workers as motivators and dynamizers and to expand the research area in order to obtain more comprehensive results.

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