

THE ROLE OF AGRICULTURAL EXTENSION WORKERS IN INCREASING THE WORK PRODUCTIVITY OF RICE FARMERS IN LIMBOTO DISTRICT

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Abstract

Agricultural extension plays an important role in improving farmers' work. This study aims to analyze the role of agricultural extension workers in increasing the work productivity of rice farmers in Limboto District and evaluate the level of work productivity of farmers in the area. The method used is quantitative with a descriptive analysis approach and a Likert scale. This study assesses the role of extension workers in guiding farmers regarding self-ability, time management, and management of technical problems in agricultural activities. The results of the study showed that the role of agricultural extension workers in Limboto District was very effective in increasing the work productivity of farmers, with an average score of 4 in each indicator tested. The research sample was carried out on 44 farmers by taking until they started on farmers who had 2 hectares of land. The data analysis method was carried out in a quantitative descriptive manner with interview and observation methods. The results showed that the increase in work productivity of rice farmers in Limboto District, based on the indicators tested, obtained positive results with an average value of 4, which indicates a good category. The effectiveness of the role of agricultural extension workers in this sub-district can be categorized as effective, with the achievement of 79% of the target set for the extension role. However, farmers' labour productivity is only 72%, which shows that although extension is effective, external challenges such as cost constraints and access to modern agricultural technologies still hinder agricultural yields. And the last is The relationship between the effectiveness of the role of agricultural extension workers and the work productivity of farmers in this sub-district showed significant results, with a correlation coefficient value of 0.179 and a significance value of 0.002. This shows that the more effective the extension workers are in carrying out their roles, the higher the productivity achieved by farmers.

Keywords: Effectiveness, Impact, Extension Worker Productivity, Role of Agricultural Extension Workers, , Sustainability

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INTRODUCTION

The agricultural sector in Indonesia, especially rice production, has a very important role in supporting the country's economy. Rice as the main commodity, not only supports national food security, but also makes a significant contribution to the Gross Domestic Product (GDP). In this context, it is important to understand how increasing the work productivity of rice farmers can be done to address the increasingly complex challenges of food security. One of the efforts that can be made is through proper and effective agricultural extension, because extension workers play the role of agents of change that bring new knowledge and technology to farmers.

Indonesia is an agrarian country where most of its population depends on the agricultural sector to meet its living needs. Rice production, as a major commodity, contributes not only to domestic food needs, but also creates jobs for most rural communities. In the conditions of the economy that continues to develop, the agricultural sector is faced with a major challenge, namely the increasing demand for food in line with the increasing population, while agricultural land is limited and the quality of human resources is not yet fully ready to adapt to the development of increasingly advanced agricultural technology.

Based on data from the Central Statistics Agency (BPS), Indonesia's agricultural sector accounts for around 13% of national GDP, with rice being the main commodity that dominates agricultural production. However, although this sector has great potential, the level of farmers' work productivity is still relatively low. One of the factors that is an obstacle is the low level of adoption of efficient and modern technology by farmers. In addition, uneven distribution of knowledge, limited adequate training, and lack of access to profitable markets are major challenges for farmers in various regions, including in Limboto District.

Agricultural extension workers have a vital role in educating farmers and introducing the latest technology that can increase farmers' work productivity. According to , the role of agricultural extension workers in Ambuluanu Village has been proven effective in increasing the work productivity of rice farmers. In this study, it is known that agricultural extension workers function not only as facilitators of knowledge but also as motivators that encourage farmers to be more active in adopting new technologies that can improve their agricultural yields. also found a similar thing in his study in Cibuniasih Village, Tasikmalaya Regency, which showed that extension workers play a major role in helping farmers overcome difficulties in rice production,

with the contribution of extension reaching 66.6% to increase farmers' work productivity. However, despite numerous studies showing positive results from extension programs, many regions in Indonesia, including Limboto District, are still experiencing challenges in optimizing the role of extension workers. Oktafiani et al. (2021) Ariana et al. (2021) .

Limboto District, although the agricultural sector, especially rice, has great potential, faces a number of major challenges in increasing the work productivity of farmers. One of the main challenges is the limited area of fertile land. With the population constantly increasing, the demand for stable and affordable food is highly dependent on efficient agricultural productivity. However, high unemployment and poverty rates in the area exacerbate the problem of farmers' inability to access modern agricultural technologies that can boost their agricultural yields. Limited access to wider markets is also a barrier for farmers to market their agricultural products at a decent price.

In addition, socio-economic factors such as low education levels, lack of adequate training and assistance from extension workers, and lack of facilities that support modern agriculture are significant obstacles in increasing farmers' work productivity. In a study conducted by Coppo Village, it is known that extension workers who have more experience and professional skills can have a significant impact on agricultural yields. This shows that extension workers must master the technical aspects of agriculture and understand the socio-economic conditions of farmers to maximize the results that can be achieved. Latif et al. (2022)

In order to increase the work productivity of rice farmers, more modern agricultural technology is needed. In his research, it was found that extension workers who actively accompany farmers in the adoption of new technologies such as superior seeds and modern irrigation systems can help farmers significantly increase agricultural yields. This is in line with the needs of farmers in Limboto District who still depend on traditional methods in rice cultivation. Extension workers must be able to provide a deeper understanding of the latest technologies and practices so that farmers can increase their work productivity in a sustainable manner. Nabilah et al. (2024)

In Limboto District, more targeted and intensive counseling on modern agricultural technologies, such as mechanical tools for tillage, efficient irrigation techniques, and proper fertilization management, is urgently needed. The application of the right technology can increase the efficiency and work of farmers without significantly increasing production costs. With a good understanding of technology, farmers will be more confident in implementing farming methods that are more environmentally friendly and profitable.

Several relevant previous studies provide an important overview for this study. examined the role of extension workers in increasing the work productivity of rice farmers in Ambuluanu Village and found that agricultural extension workers play a fairly good role in increasing the work productivity of farmers. This research shows that extension workers not only provide technical knowledge, but also become motivators that encourage farmers to be more productive in doing farming. Oktafiani et al. (2021)

In addition, it is also emphasized that motivation and counseling carried out by extension workers have been proven to significantly increase agricultural yields. These findings are in line with the purpose of this study which wants to analyze how extension workers can increase farmers' work productivity through more intensive guidance and mentoring. Ariana et al. (2021)

This study aims to explore more deeply how the role of agricultural extension workers can increase the work productivity of rice farmers in Limboto District. The main focus of this study is to find out the extent to which extension workers can assist farmers in adopting new technologies and improving their agricultural yields. This research also aims to identify factors that can affect the work productivity of farmers in the area, as well as provide policy recommendations that can support the success of extension programs.

This research is expected to provide a clearer picture of the role of agricultural extension workers in increasing the work productivity of rice farmers in Limboto District. In addition, the results of this study can provide input for the development of more effective extension programs based on the local needs of farmers, as well as encourage policies that support sustainability and increase the productivity of the agricultural sector in the area.

RESEARCH METHODS

This study uses a descriptive qualitative approach to explore the role of agricultural extension workers in increasing the work productivity of rice farmers in Limboto District. The qualitative approach was chosen because it allowed researchers to explore the views, experiences, and perceptions of farmers and extension workers directly. Data was obtained through in-depth interviews, questionnaires, and field observations. The collected data was analyzed thematically to identify patterns that illustrate how extension workers can support farmers in increasing their work productivity and overcoming existing challenges.

This research was conducted in Limboto District, which is one of the main rice-producing areas in Gorontalo Regency. The study lasted for two months, namely November to December 2024, to allow enough time to collect the necessary field data. Primary data was collected from rice farmers and extension workers involved in agricultural extension programs through in-depth interviews and questionnaires, while secondary data was taken from the annual report of the Agriculture Office, statistical data from the Central Statistics Agency (BPS), and related literature.

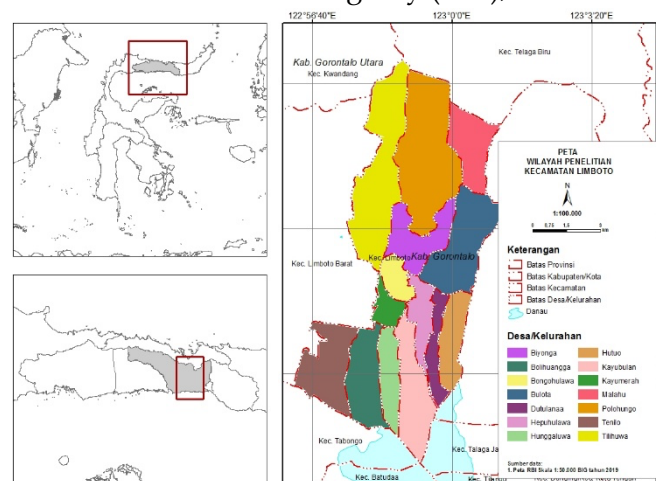


Figure 1. Research Location

The sample of this study was selected using the stratified random sampling method, focusing on farmers who have at least 2 hectares of land. Based on the calculation of the Slovin formula, the number of samples taken was 44 farmers, which is expected to provide a representative picture of the influence of the role of extension workers on the work productivity of farmers. A questionnaire using the Likert scale will be used to measure farmers' perceptions of the role of extension workers and their impact on their productivity.

Data analysis was carried out using descriptive analysis to describe the characteristics of farmers and the results of the role of extension workers in increasing farmers' work productivity. The Likert scale is used to measure farmers' perceptions of the effectiveness of the extension received, which will provide an overview of how extension workers carry out their duties in supporting increased agricultural productivity.

RESULTS AND DISCUSSION

Limboto District, located in Gorontalo Regency, is one of the central areas of rice production in Gorontalo Province. With an area of about 103.32 km², Limboto District has a topographic diversity consisting of lowlands, hills, and lakeside areas, which creates great potential in the agricultural sector. Although most of the area is used for rice farming, the main challenges faced by farmers in this area are limited access to modern agricultural technology, fluctuations in grain prices, and the increasingly unpredictable impact of climate change.

Limboto District, with a population of about 52,338 people, is mostly inhabited by farmers between the ages of 41 and 50, which shows the dominance of the older generation in managing the agricultural sector in the region. This phenomenon is in line with global trends in the agricultural sector, where the regeneration of young farmers is increasingly hampered. The lack of interest of the young generation to be involved in agriculture further worsens the situation, one of which is because this sector is considered less profitable when compared to the non-agricultural sector and limited access to technology is the main factor that makes the young generation less interested in joining the agricultural sector. It also revealed that the non-agricultural sector is more attractive to the youth due to greater opportunities in terms of income and technological advancements. As a result, the agricultural sector in Limboto District faces a shortage of young workers who can contribute to innovation and adoption of new technologies. Ibrahim et al. (2023) Rezaui Day et al. (2023)

Conditions in Limboto District show the importance of paying attention to factors that can change the perception of the younger generation towards agriculture. Research by shows that increased knowledge and education regarding modern agricultural technologies can increase the interest of the younger generation to get involved in the sector. Thus, there needs to be more intensive measures in introducing opportunities in the agricultural sector, especially through more in-depth education and guidance. These efforts involve not only the government, but also families and local communities, as suggested by Mulyana et al. (2022) Nurlaela et al. (2020) and Razak et al. (2023). In the context of Limboto District, it is important to increase the positive image of the agricultural sector in the eyes of the younger generation so that they see agriculture as an attractive opportunity and has the potential to be developed.

In Limboto District, the majority of farmers are men (84%), which reflects the dominance of male workers in the management of rice farming businesses. This shows that the division of roles based on gender in the agricultural sector is still strongly influenced by local traditions and long-standing social norms. Although women in Limboto District are more involved in supporting sectors, such as agricultural processing, some farmer groups are beginning to realize the importance of women's involvement in financial management and distribution of agricultural products. mentioning that the tradition that considers work in the agricultural sector as the domain of men plays a big role in this division of roles. However, a change in attitudes is beginning to be seen, as explained by , which suggests that gender inclusion in agricultural management can improve efficiency and productivity. It also revealed that women's participation in decision-making can contribute to an increase in agricultural output, signaling that women's role in this sector is increasingly important. Adefila et al. (2024) Mpiima et al. (2019) Sarie et al. (2023)

In terms of education level, most farmers in Limboto District have a basic education, with more than 60% only completing primary school education. This limited education hinders farmers' ability to access and understand modern agricultural technologies that can increase production yields. Farmers with higher levels of education are more likely to be open to innovation and adoption of new technologies, as found by , which reveals that educated farmers are better able to implement cutting-edge farming techniques. Research in Kenya also shows that farmers' education levels are directly related to their ability to adopt more efficient agricultural technologies. Therefore, education and training programs aimed at improving the knowledge of farmers, including women, are essential to drive change in agricultural practices in Limboto District. An approach that engages women and improves educational capabilities in the agricultural sector is expected to drive a transition towards more modern and inclusive agricultural practices, as expressed by . Nonvide (2017) Mwangi et al. (2024) Enns & Martin (2015)

The role of agricultural extension workers in increasing the effectiveness of extension and supporting farmer productivity is very important. Based on the results of the research conducted, the role of extension workers in this sub-district can be categorized as good, with an average score of 4 for all indicators tested. Extension workers here not only act as educators who provide information on modern agricultural techniques, but also as facilitators who provide technical guidance related to problems faced by farmers, such as pest control and water management. In addition, extension workers also help farmers access market information and prices of agricultural products, as well as act as motivators who support farmers to continue to increase the productivity of their farming businesses. This is in line with the research of Oktafiani et al. (2021), which also shows that effective extension workers are able to help farmers overcome the obstacles they face in farming.

Although the role of extension workers in Limboto District can be categorized as good, there are still several aspects that can be improved to increase the effectiveness of counseling. One of the important steps is to adjust the extension schedule to be more integrated with the planting season of farmers and local needs. Previous research has also shown that fitting extension timing with the agricultural cycle can improve the effectiveness of the information provided to farmers, allowing them to make more maximum use of knowledge. In addition, solidarity between farmers needs to be

strengthened through discussion forums or farmer groups, which can be a forum to share motivation and solutions to challenges faced in agricultural activities. revealed that farmer groups can create a better learning environment, accelerate the adoption of agricultural technology, and increase the effectiveness of extension by giving farmers direct access to practical experience and knowledge from fellow farmers. (Sofia et al., 2022) Putra et al. (2024)

Furthermore, it is important for extension workers to continuously update their knowledge and skills through continuous training. Structured training can strengthen extension workers' competence in terms of understanding the latest agricultural technologies and more effective extension strategies. This will ensure that extension workers can provide more relevant assistance and in accordance with the challenges faced by farmers in the field. In addition, the integration of technology in the extension process, such as the use of digital platforms to disseminate information to farmers, is becoming increasingly important. The use of information and communication technology in extension can expand the reach and increase farmers' access to useful information. However, the effectiveness of technology-based media must be continuously evaluated to ensure that the content presented is truly in line with the needs of farmers. (Moonti et al., 2022)

Increasing the work productivity of farmers is one of the main goals of agricultural extension carried out in Limboto District. Based on the results of the research obtained, indicators that measure self-ability, time management, and technical problem management showed significant results, where each indicator received an average score of 4. This indicates that most farmers in this region have shown excellent ability in managing their farms, especially in managing rice crops. In other words, farmers in Limboto District tend to be able to plan and carry out agricultural activities very well, use time efficiently, and deal with technical problems that arise during the planting season. This research is in line with the findings, which confirm that proper time management and the ability to manage technical problems are two crucial factors in increasing the success of farmers, especially in the rice farming sector. The counseling provided by agricultural extension workers in Limboto District plays a major role in improving this ability, by providing farmers with the knowledge needed to plan their agricultural activities more systematically and effectively. Ellyta & Dewi (2023)

Furthermore, agricultural extension not only informs, but also equips farmers with the practical skills needed to manage their farming more efficiently. Research by shows that the impact of extension is significant in increasing agricultural production. By providing the right knowledge, as well as ongoing training and guidance, extension can increase the capacity of farmers to deal with the challenges they encounter in the field, including in terms of pest management, irrigation and fertilization, which are very important technical issues in rice farming. One of the most important aspects of extension is strengthening farmers' attitudes and skills, as they both play a big role in determining how well farmers can apply the techniques taught in practice. In this case, effective interaction between extension workers and farmers not only helps in the delivery of information, but also increases the readiness of farmers to overcome technical problems that often arise during the farming process. This reinforcement, which is based on direct collaboration with extension workers, allows farmers to be better prepared to increase their agricultural yields, thereby increasing overall productivity. Quality and timely extension will maximize the utilization of agricultural potential, assist farmers in better managing their farming and, in turn, support higher

and more efficient production sustainability. Ellyta & Dewi (2023) (Adiwena et al., 2024) (Adiwena et al., 2024)

However, although the adoption of agricultural technology among farmers obtained an average score of 2.09, which indicates that the application of modern technology is still low, the main problem that hinders this is the cost limitations faced by most farmers. Although modern technology has great potential to improve efficiency and production yields, the reality is that the high cost of purchasing new agricultural tools and technologies is a significant obstacle. This is in line with the findings, which show that financial constraints are a major factor hindering the adoption of technology among farmers. New technologies that can increase yields are often inaccessible because farmers, especially those with limited financial status, tend to avoid the high risks of investing in modern agricultural tools. Jamil et al. (2023)

As a solution, research shows that financial support through subsidy schemes or cooperative financing can be an effective step to increase farmers' access to technology that can increase their productivity. Yang et al. (2023) and Yi et al. (2024) emphasizes that direct assistance for the purchase of tools or access to credit, such as agricultural equipment subsidies or farmer group-based financing, can expand farmers' access to more efficient and productive technologies. In this way, the high costs that are the main obstacles can be overcome, allowing farmers to adopt more modern technologies and increase efficiency in their farming activities.

In addition, although extension already provides important information related to modern agricultural technology, the success of adoption depends heavily on the ability of farmers to understand and utilize this information. Therefore, a more comprehensive approach is needed, which includes affordable financial support and effective counseling. argues that the combination of quality extension and adequate financial solutions will create ideal conditions to encourage the use of new technologies in farming. This way, farmers will be better prepared to adopt technologies that can improve their yields and efficiency in the long run. Pannell & Claassen (2020)

Although farmers in Limboto District face various challenges, the results of the study show that the role of extension workers in this area can be categorized as effective, with an achievement rate of 79%. Extension workers were able to provide relevant training and useful information, despite constraints related to limited access for some farmers and the need to adjust extension schedules to better align with their agricultural activities. This emphasizes the importance of structured and timely counseling, which can ensure that farmers obtain and utilize the information provided optimally. Adjustment of extension timing is essential to match the schedule of the planting and harvest seasons, which has a direct effect on the success of the farm. (Hasanuddin et al., 2021) (Joka et al., 2022)

Furthermore, the use of digital media such as WhatsApp and Telegram has proven to be an effective solution in accelerating the dissemination of information and facilitating communication between extension workers and farmers. Research by shows that the use of digital technology in agricultural extension not only increases the speed of information distribution but also increases interactivity among farmers, which supports the exchange of new ideas and techniques. The use of communication technology can increase farmers' participation in extension activities and help them be more effective in applying the knowledge gained. With these measures, extension workers can provide better guidance and reach more farmers in the area, which in turn

can improve the effectiveness of extension at the field level. Primilestari et al. (2022) (Hadid et al., 2023)

Although agricultural extension in Limboto District has proven to be effective, with results showing a 72% achievement rate in agricultural productivity, there are still significant challenges faced by farmers in implementing the knowledge they have gained. One of the main obstacles faced is the high cost of technology adoption as well as limited access to modern agricultural tools that can increase agricultural yields. Research by shows that while extension can provide new knowledge to farmers, the implementation of technology remains hampered by the financial constraints experienced by farmers, especially in developing countries. This suggests that a major challenge in the implementation of knowledge gained from extension is how to address the high cost of technology adoption, which in turn limits the ability of farmers to adopt modern technologies more efficiently. Danso-Abbeam et al. (2018)

To address this issue, a more comprehensive and integrated policy solution is urgently needed. Supportive policies, such as subsidies for agricultural technology and easier access to capital, can help farmers acquire the technology they need to increase productivity. and revealed that technology subsidies can play a huge role in helping farmers to access modern agricultural tools that have great potential to improve their efficiency and yields. With subsidies and cooperative-based financing schemes, farmers can gain easier access to modern equipment that was previously difficult to reach due to high costs. Therefore, policies that support access to finance and technology will help overcome the major barriers farmers face in adopting new technologies, so that their productivity can increase significantly. Zhao (2023) Searchinger et al. (2020)

In addition, although extension has provided a wealth of knowledge about agricultural technology, the implementation of technology is highly dependent on the ability of farmers to apply that knowledge. Research by states that the success of extension does not only depend on the knowledge conveyed by extension workers, but also on how farmers can utilize that information in the field. Therefore, it is very important to provide ongoing training for extension workers so that they can provide more effective guidance, according to the needs of farmers. He added that well-trained extension workers not only help farmers in technical aspects but also in overcoming practical challenges in the field, such as pest management and irrigation. To further strengthen extension, the use of digital platforms such as WhatsApp and Telegram can be an effective solution to accelerate the dissemination of information and facilitate more dynamic communication between extension workers and farmers, as explained by . By leveraging these communication technologies, farmers can more quickly access knowledge and discuss the latest agricultural practices, which in turn will increase the application of new technologies in their farming. Fitriana & Sukur (2024) Shivamurthy et al. (2023) Primilestari et al. (2022)

The results of the analysis showed a significant relationship between the effectiveness of the role of extension workers and the work productivity of farmers. Based on the value of the correlation coefficient of 0.179, which, although showing a positive relationship, can be considered relatively small, which indicates that effective extension plays an important role in increasing farmer productivity, although with a less large influence. These results are in line with findings in the study and which also found that although extension can have a positive impact, there are still other external factors that have a significant influence on agricultural productivity. These factors include the high cost of technology adoption, limited farming tools, and natural conditions that severely affect agricultural production yields. Therefore, although

extension provides useful information, greater external challenges, such as limited access to technology and high costs, remain a major obstacle for farmers in implementing the newly acquired knowledge. Wardana et al. (2022) Nurdyawati & Purwati (2021)

In addition, the research also supports these findings by showing that while extension can help farmers gain new knowledge of modern agricultural techniques, the cost constraints of adopting technology as well as limitations in accessing more efficient farming tools are major challenges in increasing their productivity. also emphasizing that in this context, the role of extension workers is not only limited to the delivery of technical information, but also important in guiding farmers to gain access to the necessary resources to adopt technologies that can improve agricultural efficiency. Therefore, greater support in the form of financial assistance and access to technology is urgently needed to support the implementation of more efficient technology in the field. Nurdyawati & Purwati (2021) Bahua (2021)

Furthermore, research conducted by shows that the effectiveness of agricultural extension is highly dependent on good collaboration between extension workers, farmers, and the government as key stakeholders. Systematic efforts in the implementation of counseling must be able to reach all aspects of the challenges faced by farmers, including the provision of financial access and the necessary technology. suggested that to increase the productivity of agricultural products, the success of extension needs to be supported by policies that facilitate accessibility to technology and resources, either through subsidy programs or farmer group-based financing. Thus, the success of counseling cannot stand alone, but must be complemented by adequate policy support and infrastructure that supports wider adoption of the technology. A holistic approach involving all stakeholders will have a more significant impact on increasing agricultural productivity and farmers' welfare in the long run. Wardana et al. (2022) Bahua (2021)

Overall, the effectiveness of extension has been proven to have a positive impact on farmer productivity. Effective extension programs successfully improve farmers' knowledge and skills, which in turn contributes to the implementation of better agricultural practices. However, although extension already makes a significant contribution, to achieve optimal results, it needs to be accompanied by concrete solutions to external constraints faced by farmers, such as limited access to financing and the adoption of more affordable technology. Research conducted by confirms that access to sources of financing for farmers is essential, as it can make it easier for them to adopt new technologies as well as increase their motivation to engage in more productive and efficient farming practices. Without adequate financing support, although farmers gain knowledge from extension, they will find it difficult to implement modern technologies that can improve their agricultural yields. (Sekyi et al., 2020) Squirrel (2020)

Furthermore, extension workers need to be more intensive in providing direct guidance in the field and assisting farmers in overcoming practical problems they face, such as pest management, irrigation, and fertilization. Research conducted by shows that consistent support from extension workers is essential to help farmers overcome the daily challenges that hinder their productivity. One way to increase the effectiveness of extension is to integrate digital technologies, such as mobile applications or web-based platforms, that can provide up-to-date information on

agricultural techniques and farm management. suggests that digital technology can accelerate the distribution of information and facilitate more direct interaction between extension workers and farmers, thereby allowing farmers to access the knowledge they need more quickly and easily. Rajkhowa & Qaim (2021) Singh et al. (2023)

Closer collaboration between extension workers, farmers, and the government is essential to create policies that support access to technology and financing. and states that policies designed to reduce the cost of technology adoption, such as subsidies or incentives for farmers, can play an important role in increasing more efficient and productive adoption of technology. Therefore, agricultural extension not only needs to focus on knowledge transfer, but also act as a bridge between farmers and the resources needed to improve agricultural yields. It further suggests that policies that optimize access to finance and technology will help increase agricultural productivity significantly and sustainably. With more intensive counseling and policies that support access to financing and technology, farmers in Limboto District will be better able to overcome the challenges they face. Collaboration between extension workers, farmers, and the government is key to creating comprehensive solutions to increase agricultural productivity in a sustainable manner. Sekyi et al. (2020) Teye & Quarshie (2021) Teye & Quarshie (2021)

CONCLUSION

Based on the results of research on the role of agricultural extension workers in increasing the work productivity of rice farmers in Limboto District, several important things can be concluded. First, the role of agricultural extension workers in Limboto District was very effective, with an average score of 4 for each indicator tested. Extension workers have succeeded in providing training related to modern agricultural techniques, providing technical guidance, and supporting farmers in increasing the productivity of their farming businesses. Extension workers also play a role in providing market information and helping farmers overcome various technical problems faced in the field, which is part of the first goal of this study, which is to find out the role of agricultural extension workers in increasing farmers' work productivity.

Second, the increase in farmers' work productivity in Limboto District shows positive results in several aspects. The indicators of self-ability, time management, and management of technical problems obtained an average score of 4, which indicates that most farmers already have good skills in running their farming businesses. This is in line with the second goal of the study, which is to evaluate the work productivity of farmers in Limboto District.

Third, the effectiveness of counseling in Limboto District can be categorized as effective, with the achievement of 79% of the set target. Despite this, farmers' labor productivity is only 72%, which indicates that although extension is effective, there are external challenges that hinder it, such as the high cost of technology adoption and limited access to modern agricultural tools. This is in accordance with the third goal which focuses on the effectiveness of the role of agricultural extension workers.

Finally, the relationship between the effectiveness of the role of extension workers and the work productivity of farmers showed significant results, with a correlation coefficient value of 0.179 and a significance value of 0.002. This shows that the more effective the extension workers are in carrying out their roles, the higher the

productivity achieved by farmers. These findings support the fourth goal of the study, which analyzes the relationship between the two.

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