

THE ROLE OF FIELD EXTENSION WORKERS IN THE SHALLOT AGRIBUSINESS SYSTEM IN BALI PROVINCE

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ABSTRACT

This study aims to analyze the role of field instructors in the shallot agribusiness system in Bali Province. The shallot agribusiness system consists of several subsystems, namely the procurement of production facilities, farming, processing and marketing, and supporting institutions. This study was conducted in each regency and city in Bali Province. The sample selection in this study used purposive sampling, which is a deliberate selection based on the consideration of the presence of field extension workers in the shallot agribusiness system in Bali Province. Thus, the selected sample consisted of 80 shallot farmers and 17 field agricultural extension workers in Bali Province. Data analysis in this study used descriptive data analysis.

The results of the study show that field extension workers play a strategic role in integrating all subsystems of the shallot agribusiness. In the production means procurement subsystem, extension workers act as facilitators in the provision of appropriate seeds and fertilizers. In the farming subsystem, extension workers function as educators and technical assistants through field schools and demonstration plots. In the processing and marketing aspect, extension workers act as mediators between farmers and business actors to strengthen a fair marketing system. Meanwhile, in the supporting institutions subsystem, extension workers assist farmers in accessing financing, training, and strengthening farmer institutions. Field extension workers play a role not only as disseminators of agricultural innovation, but also as agents of social change who encourage the independence and competitiveness of shallot farmers in Bali. Strengthening the capacity of extension workers, government policy support, and synergy between agribusiness institutions are important factors in realizing a resilient and sustainable shallot agribusiness system.

Keywords: Agricultural Extension Officer, Agribusiness System, Shallots

1. INTRODUCTION

Field extension workers play a very strategic role in supporting the development of agribusiness systems in Bali Province, particularly in efforts to improve farmers' welfare and the competitiveness of the agricultural sector. Extension workers serve as liaisons between government policies, research institutions, and business actors at the field level. They play a role not only in disseminating agricultural technology innovations, but also in building farmers' capacity to manage their farms efficiently, market-oriented, and sustainably.

Agricultural extension workers play a very important role in developing agribusiness systems in Indonesia, including in the province of Bali. As the spearhead of agricultural development, extension workers are tasked with disseminating technological innovations, assisting farmers in implementing good cultivation practices, and helping to strengthen farmer group institutions. According to Law No. 16 of 2006 concerning the Agricultural, Fisheries, and Forestry Extension System, extension is a learning process for primary actors and business actors so that they

are willing and able to help and organize themselves in accessing information, technology, and other resources. This shows that extension workers not only function as teachers but also as facilitators and motivators for farmers.

The province of Bali has great potential in the agricultural sector, including leading commodities such as shallots, horticulture, and other food crops. However, farmers still face various challenges, such as limited access to information, low adoption of modern technology, fluctuations in agricultural prices, and weak farmer group institutions. The role of field extension workers is crucial in strengthening each subsystem of agribusiness, from the procurement of production inputs, cultivation processes, processing of produce, to marketing.

According to Soekartawi (2002), an effective agribusiness system must be supported by synergy between farmers, business actors, financial institutions, and other supporting institutions, with extension workers playing a central role as a bridge between these subsystems. In Bali Province, the agricultural sector remains the backbone of the rural economy, especially for leading commodities such as shallots, rice, and horticulture. However, there are still various obstacles, such as low adoption of modern agricultural technology, weak farmer group institutions, and commodity price fluctuations (Bali Province Agriculture and Food Security Agency, 2023).

The transformation of agriculture towards a modern agribusiness system in Bali requires extension workers to have broader competencies, not only in technical aspects of agriculture but also in business management, entrepreneurship, and strengthening farmer institutions. Extension workers are expected to be facilitators, motivators, and innovators in building farmer independence and strengthening partnership networks with the private sector and other supporting institutions.

Strengthening the role of field extension workers is one of the keys to success in realizing a competitive, sustainable, and equitable agribusiness system in Bali Province. Through targeted and continuous assistance, it is hoped that farmers will be able to increase the productivity, quality, and added value of agricultural products, as well as contribute to food security and regional economic development. The purpose of this study is to analyze the role of agricultural extension in the shallot agribusiness system in Bali Province.

2. RESEARCH METODOLOGY

This research was conducted in each regency and city in Bali Province. The selection of research locations was determined using the purposive method, which is a method of deliberately determining research locations based on various considerations. The sample selection in this study used purposive sampling, which is a deliberate selection based on the consideration of the presence of field instructors in the shallot agribusiness system in Bali Province. Thus, the selected sample consisted of 80 shallot farmers and 17 field agricultural instructors in Bali Province.

The types of data in this study are quantitative data, which contains information in the form of numbers, and qualitative data, which contains information in the form of words, sentences, and images. The data sources used in this study are primary and secondary data. Primary data was collected by interviewing shallot farmers and agricultural extension workers using questionnaires/questionnaires. Secondary data was obtained from documents, literature, and data from the Bali Provincial Agriculture and Food Security Office. Data analysis in this study used descriptive data analysis.

3. LITERATUR REVIEW

Previous research results are certainly very relevant as references or comparisons, because there are several similarities in principle, although there are differences in some aspects. Several previous studies that serve as references in this study are: Hidayat, et. al. (2024) *The Role of Field Agricultural Extension Workers in the Adoption of Rojolele Rice Innovations*. The objectives of this study are: (1) to examine the role of Field Agricultural Extension Workers (PPL) in the adoption of the Rojolele Srinuk rice variety innovation by farmers; (2) to examine the characteristics of Rojolele Srinuk farmers; and (3) to examine the process of innovation adoption by Rojolele Srinuk rice farmers in Delanggu District. The results of the study show: (1) The role of Field Agricultural Extension Workers (PPL) in the adoption of the Srinuk Rojolele rice innovation, which consists of the roles of facilitator, educator, motivator, and dynamizer in Delanggu Subdistrict, is functioning quite well. This can be seen through several extension activities; (2) The characteristics of Rojolele Srinuk farmers in Delanggu Subdistrict are quite clear and have their own uniqueness, consisting of demographic characteristics, socioeconomic characteristics, and sociocultural characteristics; (3) The stages of the decision-making process for the adoption of the Rojolele Srinuk rice innovation by farmers in Delanggu Subdistrict consist of: the knowledge stage, the persuasion stage, the decision stage, the implementation stage, and the confirmation stage.

Nurida, et. al. (2024) *The Role of Agricultural Extension Workers in Assisting Millennial Farmers*. This study aims to identify the role of agricultural extension workers in assisting millennial farmers and analyze the importance of optimizing this role in increasing sustainable agricultural productivity. The results of the study show that agricultural extension workers have four key roles: facilitator, mediator, communicator, and consultant. As facilitators, extension workers help millennial farmers access the technology and resources needed for sustainable agriculture. As mediators, they facilitate dialogue between farmers and relevant parties to achieve a better understanding. As communicators, extension workers help convey information and education to farmers about sustainable agricultural practices. Also as consultants, they provide advice and technical guidance to farmers in implementing these practices.

4. RESULTS AND DISCUSSION

4.1 Overview of the Shallot Agribusiness System in Bali Province

The province of Bali is one of the centers of shallot production in eastern Indonesia, with the main producing areas in the regencies of Buleleng, Tabanan, Denpasar, Bangli, Gianyar, and Karangasem. The shallot agribusiness system in Bali involves several interrelated subsystems, namely the production facilities procurement subsystem, the farming subsystem, the processing and marketing subsystem, and the supporting institutions subsystem. Farmers often face various problems such as limited access to high-quality seeds, market price fluctuations, and weak farmer institutions. Therefore, the role of field agricultural extension workers (PPL) is very important to ensure that each subsystem can run synergistically. Extension workers serve as facilitators, communicators, motivators, and technical assistants who help farmers in every stage of agribusiness. Through extension activities, farmers gain knowledge and skills in cultivation, product processing, institutional strengthening, and product marketing. Thus, the presence of extension workers contributes directly to increasing farmer capacity, production efficiency, and strengthening the competitiveness of the shallot agribusiness in Bali Province.

4.2 The Role of Field Extension Workers in the Production Facilities Procurement Subsystem

Field agricultural extension workers act as facilitators in helping farmers obtain production inputs such as seeds, fertilizers, pesticides, and agricultural tools. Extension workers provide information on the types of shallot seeds that are suitable for Bali's agroclimatic conditions and environmentally friendly fertilization techniques. Extension workers also help connect farmers with production input providers, such as farmer kiosks, village-owned enterprises, or agricultural cooperatives. With this assistance, the process of procuring inputs becomes more efficient and targeted. This is in line with the findings of Rahmizani et al. (2024), who state that the success of agricultural production is greatly influenced by the effectiveness of extension services in procuring production inputs and transferring technological innovations.

4.3 The Role of Field Extension Workers in the Farming Subsystem

In the farming subsystem, extension workers play a key role as educators and technical advisors to farmers. Extension workers provide training on land preparation, planting, fertilization, pest control, and harvest and post-harvest management. Through field schools (SL) and demonstration plots (demplot), farmers learn firsthand in the field about the application of appropriate cultivation technologies. This participatory approach has been proven to improve farmers' ability to manage their farms independently. The application of Good Agricultural Practices (GAP) principles, such as the use of silver black plastic mulch and drip irrigation, is one of the tangible results of the extension process. Anantayu (2011) emphasizes that agricultural extension is a means of non-formal education for farmers to change their behavior and increase productivity.

4.4 The Role of Field Instructors in the Processing and Marketing Subsystem

After the production process, extension workers help farmers understand the importance of post-harvest activities such as drying, sorting, and packaging to maintain the quality of shallots. In terms of marketing, extension workers act as mediators between farmers and business actors to form mutually beneficial partnerships. One of the main obstacles to the shallot agribusiness in Bali is the lack of an integrated marketing system, which causes prices at the farmer level to fluctuate frequently. Extension workers play a role in encouraging the formation of a one-stop marketing system through Gapoktan, thereby increasing farmers' bargaining power. This role is in line with the results of research by Nurida, Evahelda, and Sitorus (2022), which confirms that intensive assistance from extension workers can improve the ability of millennial farmers to access markets and expand their agribusiness networks.

4.5 The Role of Field Instructors in the Supporting Institutions Subsystem

Supporting institutions such as financial institutions, cooperatives, and research institutions play an important role in the agribusiness system. However, not all farmers are able to utilize them optimally. Field extension workers act as liaisons and advocates for farmers in accessing various support facilities, such as the People's Business Credit (KUR) program, Horticultural Farming Insurance (AUTP), and capacity building training. Through the guidance of extension workers, many farmer groups in Bali have begun to transform into independent economic institutions capable of managing their businesses collectively. Anantayu (2012) states that extension workers play a strategic role in strengthening farmer institutions to enhance bargaining power and the sustainability of farming businesses.

4.6 Extension Workers in Farmer Empowerment and Regeneration

In addition to focusing on technical aspects, extension workers also play a role in social empowerment and farmer regeneration. Extension workers strive to attract young farmers to engage in shallot cultivation through digitalization of extension services, entrepreneurship training, and innovation-based agricultural models. According to Nurida et al. (2022), the assistance provided by extension workers to millennial farmers can increase motivation and adoption of new technologies that are

more efficient and environmentally friendly. Thus, extension workers are not only technology transferors but also change agents in shaping a generation of young farmers who are adaptive and competitive.

5. CONCLUSION

Based on the results of the discussion, the conclusion of this study is that field extension workers have a strategic role in integrating all subsystems of the shallot agribusiness in Bali Province. Through their educational, facilitative, consultative, and empowering functions, extension workers are the main drivers in increasing the productivity, independence, and competitiveness of farmers. Improving the capacity of extension workers and institutional support and government policies are key factors in realizing a resilient, efficient, and sustainable Balinese shallot agribusiness system.

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