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THE USE OF SOCIAL MEDIA IN RICE CULTIVATION TECHNIQUES IN BAUMATA VILLAGE, TAEBENU DISTRICT, KUPANG REGENCY
(Pemanfaatan Media Sosial Dalam Teknik Budidaya Padi Di Desa Baumata, Kecamatan Taebenu, Kabupaten Kupang)

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ABSTRACT

This study aims to explore the use of social media in agricultural extension to improve farmers' knowledge of rice cultivation techniques, as well as to identify the obstacles faced. The research method used is descriptive qualitative and quantitative, with data collected through interviews, observation, and documentation involving 38 farmers selected using purposive sampling. The results show that the most commonly used social media platforms are WhatsApp and Facebook (100%), followed by YouTube (78.9%). WhatsApp is considered the most effective because it supports direct communication between farmers and extension workers. Facebook is used but deemed less practical due to its entertainment-focused content. YouTube is helpful for extension videos but limited by internet data constraints. The main obstacles in using social media are the limited financial ability to purchase internet data and weak internet access in some areas.

Keywords: *agricultural extension, rice cultivation, social media*

ABSTRAK

Penelitian ini bertujuan untuk mengeksplorasi penggunaan media sosial dalam penyuluhan pertanian untuk meningkatkan pengetahuan petani tentang teknik budidaya padi, serta untuk mengidentifikasi kendala yang dihadapi. Metode penelitian yang digunakan adalah deskriptif kualitatif dan kuantitatif, dengan data yang dikumpulkan melalui wawancara, observasi, dan dokumentasi yang melibatkan 38 petani yang dipilih secara purposive sampling. Hasil penelitian menunjukkan bahwa platform media sosial yang paling umum digunakan adalah WhatsApp dan Facebook (100%), diikuti oleh YouTube (78,9%). WhatsApp dianggap paling efektif karena mendukung komunikasi langsung antara petani dan petugas penyuluhan. Facebook digunakan tetapi dianggap kurang praktis karena kontennya yang berfokus pada hiburan. YouTube bermanfaat untuk video penyuluhan tetapi dibatasi oleh kendala data internet. Kendala utama dalam menggunakan media sosial adalah kemampuan finansial yang terbatas untuk membeli data internet dan akses internet yang lemah di beberapa daerah.

Kata Kunci: Penyuluhan pertanian, budidaya padi, sosial media

INTRODUCTION

The development of information and communication technology (ICT) has brought about major changes in various sectors, including agriculture. One important ICT innovation is social media. Currently, social media is a means of communication widely used by farmers to access information about cultivation techniques, marketing of produce, and financing. Platforms such as *WhatsApp, Facebook*, and *YouTube* enable extension workers to disseminate information quickly, efficiently, and interactively.

Data from Databoks (2025) shows that Indonesia has 143 million social media users, covering 50.2% of the national population. Most users are of productive age, which represents enormous potential for the adoption of agricultural innovations. However, Indonesia's agricultural sector still faces challenges in terms of farmer regeneration and the limitations of conventional extension services, which struggle to reach all regions.

The use of social media as an extension medium is a strategic alternative, especially in areas with limited access such as Baumata Village, Kupang Regency, East Nusa Tenggara. This village has great potential in rice production, but most farmers still use conventional methods 105uet o limited information and technical assistance. Therefore, social media is seen as a means of bridging the gap between extension workers and farmers in the delivery of information on rice cultivation more effectively.

This study aims to determine the extent to which social media is utilised in agricultural extension in Baumata Village, as well as to identify the obstacles encountered in the process. The findings from this study are expected to contribute to the development of digital extension strategies to support agricultural productivity and regional food security.

RESEARCH METHODOLOGY

Research Location and Time

This research was conducted in Baumata Village, Taebenu Subdistrict, Kupang Regency, East Nusa Tenggara Province. This location was deliberately chosen (purposive) because Baumata Village is one of the potential rice production centres in Kupang Regency. Data collection was carried out from May 2025 until the research was completed.

Data Collection Methods

The types of data used in this study consist of primary and secondary data. Primary data was obtained directly from farmers through interviews using structured questionnaires, observations of activities in the field, and documentation in the form of photographs and videos as supporting data. Secondary data was obtained through literature studies, books, scientific journals, and documents from relevant government agencies.

Data Analysis Techniques

The data analysis used in this study was:

1. To answer the first objective, which was to determine the extent to which farmers use social media to obtain information about rice cultivation techniques, a questionnaire based on the Likert scale was used. This scale consists of five assessment categories, namely very often with a score of 5, often with a score of 4, sometimes with a score of 3, rarely with a score of 2, and never with a score of 1.
   The scores obtained from respondents will be added up for each indicator, then the average value will be calculated. The formula for calculating the average Likert scale score is:

$$Average\ Score = \frac{Total\ Score\ of\ all\ Respondents}{Number\ of\ Respondents}$$

Then calculate the percentage:
Percentage = (Total Score/Maximum Score) × 100%
The interpretation of the percentage is categorised as follows:

Tablel 1. Likert Scale Percentage Criteria

Range Percentage	Interpretation
81% – 100%	Very often
61% – 80%	Often
41% – 60%	Sometimes
21% – 40%	Rarely
0% – 20%	Never

2. To address the second objective, we identified the obstacles faced by farmers in utilising social media as an extension medium. Data was collected through open-ended questions and in-depth interviews, then analysed qualitatively to describe the obstacles encountered in the field, such as economic constraints, internet connectivity, and digital literacy.

RESULTS AND DISCUSSION

Overview of the Research Location

Baumata Village is one of the villages in Taebenu Subdistrict, Kupang Regency, East Nusa Tenggara Province, located approximately 20 kilometres from Kupang City. The village has a total population of 1,705 people spread across five hamlets, with the majority of residents working in the agricultural sector, particularly dryland farming. In the lower part of the village, there are approximately 60 hectares of rice fields that depend on water sources from springs and seasonal rivers, while the central area of the village covers 36 hectares of conservation forest which is a protected area as well as a major water source, such as the Baumata and Bonen Springs. Fluctuating water discharge and a climate dominated by the dry season pose unique challenges in agricultural management, especially for paddy fields, which can only be cultivated seasonally.

According to population data, there are 1,041 male residents and 564 female residents. The main occupation of the community is farming and gardening, with a total of 664 people (38.94%), consisting of 599 males and 65 females. This data shows that agriculture is still the dominant source of livelihood in Baumata Village, and most agricultural activities are carried out by males who play a major role in physical activities in this sector.

Respondent Characteristics

The characteristics of respondents in this study included age, education level, farming experience, and land area cultivated. Respondents consisted of 38 rice farmers in Baumata Village, Taebenu Subdistrict, Kupang Regency. Based on age group, the majority of respondents were of productive age, namely 15–55

years old, amounting to 97.37%, while the rest were over 55 years old. There were no farmers under the age of 15, indicating that children were not involved in agricultural activities, in accordance with prevailing social norms and labour regulations.

In terms of education level, most respondents had a secondary education. A total of 52.63% were junior high school graduates, 42.10% were primary school graduates, and only 5.27% were senior high school graduates. Although the respondents' formal education levels were relatively low, this did not pose a significant obstacle to rice farming management. Most farmers were still able to adapt to changes through experience and information from agricultural extension workers.

Farming experience is also an important indicator in this study. The results show that 76.31% of respondents have between 15 and 35 years of farming experience. A total of 21.06% had less than 15 years of experience, while only 2.63% had been farming for more than 35 years. These data show that the majority of farmers are at a fairly mature stage in terms of knowledge and skills in managing their farming businesses.

In terms of land ownership, most respondents (92.10%) manage less than 0.5 hectares of land. Only 7.9% own between 0.5 and 1 hectare of land, and no respondents own more than 1 hectare. This situation indicates that the majority of farmers in Baumata Village are smallholders with limited production capacity, which affects their income levels and household economic resilience.

Table 2. The Use of Social Media by Farmers in Baumata Village

Social Media	Frequency of Dominant Use	Types of Information Accessed	Reasons for Utilisation	Main Obstacles
WhatsApp	Frequently (39.48%)	Seed selection, sowing, fertilisation	Direct communication, easy to use, data-efficient	Some farmers still find it difficult to understand certain features.
YouTube	Occasionally (39.47%)	Pest control, fertilisation, harvesting & post-harvesting	Videos are easy to understand visually	Quota is wasted, signal is unstable.
Facebook	Rarely (94.73%)	Access to images/videos, information from other farmer groups	Access to images/videos and information from other farming groups	Too much entertainment content, not enough focus on education.
Instagram/TikTok/ Telegram/Twitter	Not used	None	Considered irrelevant to agriculture	Not well known, no active farmer groups, entertainment content.

Source: Processed Primary Data, 2025

The results of the study indicate that social media plays an important role in supporting agricultural extension activities in Baumata Village, Taebenu District, Kupang Regency. The platforms most widely used by farmers are WhatsApp (100%), followed by Facebook (100%) and YouTube (78.9%), while other social media such as Instagram, TikTok, Telegram and Twitter are not used at all.

WhatsApp has become the most dominant medium used due to its ease of use, flexibility in sending text, images, and short videos, as well as its ability to support direct communication between farmers and extension workers, both through groups and private messages. The information most frequently accessed through WhatsApp is the initial stages of rice cultivation techniques, such as seed selection, sowing, and fertilisation. This shows that WhatsApp not only functions as a communication tool, but also as an effective digital extension medium. These findings are in line with the opinions of Dwi Purnomo (2021) and Siti Herlinda (2020), who state that WhatsApp has great potential in bridging the gap between extension workers and farmers because communication is direct and two-way.

Meanwhile, farmers use YouTube to access cultivation information in the form of visual videos. However, its usage intensity is moderate to low due to limited internet quotas and unstable signals. Farmers use YouTube mainly to search for information related to pest and disease control, as well as fertilisation, which is considered easier to understand when presented in the form of direct practice. Nevertheless, some farmers admit that they rarely or never use YouTube due to high data consumption. This is in line with

research by Rachmawati and Nugroho (2020), which states that high data costs and network limitations are obstacles to the use of online video media for extension services.

Facebook is also still used by all respondents, but most (94.73%) stated that they only use this platform occasionally. Facebook is considered impractical because its interface is filled with entertainment and social content that is irrelevant to agriculture. Even so, some farmers use it to access information related to the final stages of cultivation, such as harvesting and post-harvesting. Research by Yuniarti and Nugroho (2020) and Dewi & Ramadhan (2019) supports these findings, in which Facebook is considered ineffective for extension services due to content distractions and high navigation complexity, especially for farmers with low digital literacy.

The lack of use of media such as Instagram, TikTok, Telegram, and Twitter shows that farmers are still very selective in choosing platforms that suit their needs and capabilities. Limited digital knowledge, infrastructure, and a preference for simple, data-efficient media are the main factors in this regard. As stated by Siti Herlinda (2020), the success of social media utilisation in extension services is largely determined by farmers' habits, comfort levels, and digital literacy.

Obstacles to the Use of Social Media by Farmers

Although social media has great potential in supporting agricultural extension, research shows that farmers in Baumata Village, Taebenu District, Kupang Regency still face a number of obstacles that affect its effectiveness. These obstacles can be grouped into three main aspects, namely technical, economic, and non-technical.

The most dominant technical obstacle is limited internet access. Many farmers complain about weak or unstable signals, which hinder access to digital content, especially agricultural videos on YouTube or image-based messages from extension workers. Network disruptions cause delays in receiving information that should be accessible quickly. These findings are in line with the research by Rachmawati and Nugroho (2020), which emphasises that uneven network infrastructure is a major obstacle to the implementation of digital-based extension in rural areas.

Economic constraints are also an important factor influencing the low utilisation of social media. Most farmers are in a lower-middle economic situation, so purchasing internet data packages is considered an additional burden that is not a priority. In these circumstances, farmers tend to save their data allowance and only access information when absolutely necessary. This situation hinders the continuity of communication between extension workers and farmers. This is supported by Haswar et al. (2022), who found that the use of social media is more effective when tailored to the economic conditions of farmers, for example by using data-efficient media such as WhatsApp.

Meanwhile, non-technical obstacles relate to low digital literacy among farmers. Many farmers are not accustomed to using social media for educational purposes, do not know how to search for information effectively, and often have difficulty understanding the technical terms used in digital agricultural content. This makes it difficult for them to access relevant information or even know how to access it at all. These findings are reinforced by Siti Herlinda (2020) and Yuniarti & Nugroho (2020), who mention that digital literacy is a crucial factor in determining the success of social media-based agricultural extension.

CONCLUSION AND RECOMMENDATIONS

Conclusion

1. The use of social media in agricultural extension to improve farmers' knowledge of good rice cultivation techniques in Baumata Village, Taebenu Subdistrict, Kupang Regency, shows that the three types of social media analysed play different roles in supporting the improvement of farmers' knowledge of rice cultivation techniques. WhatsApp is the most dominant social media platform used to access information on seed selection. YouTube is more widely used to obtain knowledge about pest and disease control, while Facebook tends to be used to find information related to post-harvest handling.
2. The main obstacles faced by farmers in utilising social media as a means of agricultural extension are technical, economic and non-technical obstacles.

Recommendations

1. Farmers are expected to be more active in utilising social media as a means to support farming activities, particularly in accessing agricultural information, communicating with extension workers, and exchanging experiences with fellow farmers.
2. Agricultural extension programmes should collaborate with village governments and telecommunications service providers to provide subsidised public Wi-Fi access points in village halls or extension offices, so that farmers can access extension materials via social media without being constrained by network issues or high data package costs.
3. To expand the reach and effectiveness of digital extension, support for network infrastructure and affordable internet access is urgently needed. The government and agricultural partners are expected to help provide these facilities so that social media can be utilised to the fullest by all farmers in the region.
4. Digital literacy training programmes for farmers are also crucial to enhance their understanding and skills in effectively and efficiently utilising social media as a means to improve agricultural knowledge and practices.

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