

Access and Utilization of Agricultural Information by Horticultural Farmers in Raoda Village, North Kolaka Regency

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The success of farming can be influenced by access to agricultural information. However, not all farmers can access and utilize information quickly and accurately. This research aims to analyze the level of access and sources of information, as well as the utilization of horticultural agricultural information by farmers in Raoda Village. The study uses a survey method with 35 horticultural farmers as respondents. Additionally, the research is supported by qualitative data. Qualitative data consists of in-depth interviews with relevant stakeholders, including the Village Head, Chair of the Farmers Group (Gapoktan), community leaders, village officials, and female farmers. Qualitative data is analyzed through data reduction, presentation, and verification, while quantitative data is analyzed using cross-tabulation and frequency tables with Microsoft Excel 2010 and SPSS for Windows 20.1. The study's results indicate a relationship between the level of information access and its utilization. Low access levels lead to low utilization, mainly due to inadequate facilities and infrastructure for farmers to access information, making it challenging for them to utilize it effectively.

Keywords: Access to information, horticulture farmers, north Kolaka Regency, Raoda village, utilization of information.

INTRODUCTION

Horticulture, a vital commodity in the agricultural sector, plays a crucial role in meeting basic human needs. It is readily available in large quantities, easily accessible, and affordable, making it an indispensable part of human life. As per the Minister of Agriculture Regulation Number 77/Permentan/OT.140/12/2012 of 2012, the Horticultural Information System is a key component unit that encompasses data provision, uniformity, storage and security, processing, product information generation, product information dissemination, and information utilization, all interrelated and aimed at fostering horticultural businesses. Research conducted by [Andriaty et al. \(2012\)](#) in Banjarnegara, Magelang, Malang and Pacitan concluded that the sources of information on agricultural technology available to farmers still need to be expanded in the form of. Likewise, means of access to information still need to be made available. Raoda Village is one of the areas in Lambai District where most of the population lives as farmers, especially horticulture. Farmers in Raoda Village have several obstacles in farming. Apart from capital, production, and market factors, farmers also experience limited access to agricultural information. [Sitanggang \(2008\)](#), in his research, said that the problems

farmers face are in terms of production, capital and markets. Apart from that, farmers need help with several issues, such as low access to productive resources, especially capital sources, limited marketing access, and limited mastery of technology.

[Yuantari and Kurniadi \(2016\)](#) highlighted the significant challenges farmers face in marketing their agricultural products. These challenges stem from poor facilities and infrastructure, as well as low levels of knowledge, particularly in the use of information technology. The lack of adequate facilities and infrastructure related to agricultural information makes it difficult for farmers to access such information, forcing them to rely solely on their own abilities. This underscores the need for an in-depth analysis of farmers' access to agricultural information, especially in horticulture. Meanwhile, [Aryogi et al. \(1994\)](#) stated that information sources are participants or institutions that can produce information. Sources of information can be individuals or institutions that create information as messages in a communication process. Information can be accessed from various information sources. Based on this, the researcher intends to analyze the information sources farmers use to access information related to horticulture. Most residents in Raoda Village, 86 percent of whom work as farmers suitable



for growing horticultural crops. This village has superior horticultural commodities, namely vegetable crops (Olericulture), such as carrots, mustard greens, cabbage, tomatoes, chilies, shallots, cucumbers, and potatoes. There are fruit crops (fruticulture) such as mangoes, oranges and avocados. Other horticultural plants are medicinal plants (biopharmaceuticals), such as turmeric, ginger, and galangal. Based on preliminary information, information was obtained that the sources obtained by farmers so far have been interpersonal sources of information, especially management information passed down from generations from parents, through farmer contacts, and information through extension workers. Farmers can access and utilize information regarding horticultural agriculture with the increase in superior horticultural commodities. It is what prompted the author to conduct this research. Researchers want to explore the influence of horticultural farmers' level of access and use of agricultural information in Raoda Village, Lambai District. This research is essential because most Raoda Village residents depend on horticultural agriculture for their livelihood.

THEORETICAL REVIEW

Communication Concept: According to the Big Indonesian Dictionary (KBBI), the definition of communication is the sending and receiving of information, news, or messages by two or more people so that the meaning or message can be understood. According to Hovland, Janis, and Kelly, communication is a process through which a person (communicator) conveys stimuli (usually in the form of words) to change or shape the behavior of other people (audience). Furthermore, Berelson and Steiner stated that communication conveys information, ideas, emotions, expertise, etc., through symbols such as words, pictures, numbers, etc. [Effendy \(2000\)](#) states that communication is the process of conveying thoughts or feelings by someone to another person using symbols that are meaningful for both parties, in certain situations, communication uses certain media to change the attitude or behavior of one or a number of people so that certain effects are expected [Effendy \(2000\)](#). However, in the context of horticultural agriculture, there are potential barriers to effective communication, such as language barriers, lack of access to technology, and cultural differences, which can hinder the transmission and understanding of information.

In practice, communication media includes various forms, such as print, audio, visual, and online media. Each media type has strengths and weaknesses that need to be adjusted to the purpose and function of communication. [Lewis \(2004\)](#) differentiate communication media into three categories: a) interpersonal media, which includes all media that allow for a more direct exchange of messages between communicating parties in the sense that by using this media, the sender and recipient can exchange roles easily, for example, the telephone, b) conventional media, is a media that allows the

sender of the message to reach many people who are far away without the possibility of direct interaction with the recipient or audience, and c) hybrid media, generally based on computer technology which tends to combine the functional richness of mass media and interpersonal communication, making this new media potentially able to reach audiences in many different locations, but at the same time supported by a high level of interactivity. Higher compared to conventional media.

Access and Use of Information: Access and use of information are essential in various aspects of life, including horticultural agriculture. Access to information refers to the ability of horticultural farmers to obtain data, facts, or knowledge from various sources. Good access allows farmers to learn about farming techniques, fertilization, pest control, and climate change. Easy access helps farmers make better decisions in managing their farming. Factors that influence access to information include infrastructure, education, and technology.

Meanwhile, information utilization is a person's ability to apply knowledge from information sources. Farmers who use information well can increase productivity and quality of agricultural products. Utilizing information helps farmers overcome challenges such as changes in weather, plant diseases, and market prices. Factors that influence the use of information include literacy, motivation, and social support. Good access only sometimes means optimal utilization. Sometimes, farmers have access to information but need to use it more effectively. The use of information depends on the farmer's willingness and ability to apply the knowledge gained.

According to [Schramm \(1973\)](#), information can help a person organize all aspects of his environment relevant to the situation in which the person must act; information will help him make decisions more quickly. [Wulandari et al. \(2007\)](#) said that access to information is the achievement, transfer, or acquisition of information without or by using tools in the form of telecommunications and through channels or media. Access to information can be a bridge that connects information sources to the community or a person so that information needs can be met. [Van Den Ban and Hawkins \(1999\)](#) stated that by accessing information from various information sources, farmers can broaden their horizons and generate motivation and performance based on the ideas obtained.

According to [Matindas \(2011\)](#), information utilization is the effect of farmers receiving, accessing, and controlling information. [McGuire \(1989\)](#) states that the stages in utilizing information are: (1) used to learn something and understand it, (2) used as comparison material with existing conditions, (3) practiced as a skill, (4) used as discussion material, and (5) passed on to other people.

Horticulture Farmer: According to the Big Indonesian Dictionary (KBBI), the meaning of the word "farmer" is a



person whose job is farming. The farmer comes from the root word "Tani." Meanwhile, "horticulture" refers to the intricacies of the activity or art of growing vegetables, fruit, or ornamental plants. Based on this understanding, it can be concluded that horticultural farmers cultivate vegetables, fruit, and ornamental plants. According to the [Central Statistics Agency \(2023\)](#), farmers are people who operate agricultural businesses (food crops and community plantation crops) at their own risk with the aim of selling, either as owner-farmers or sharecroppers (rental/contract/profit sharing). Horticulture farmers often operate agricultural businesses, mainly vegetable crops, fruit crops, ornamental plants, and medicinal plants. According to [Zulkarnain \(2010\)](#), Horticulture comes from Latin, namely Hortus, which means garden, and color, which means to grow (especially microorganisms) in an artificial medium. According to [\(Arfadi et al., 2018\)](#), experts generally define horticulture as a science that studies the cultivation of vegetables, fruits, flowers, or ornamental plants. In Indonesia, the gardens usually contain fruit plants, ornamental plants, perfumes, cooking spice plants, medicinal plants, and spice-producing plants.

FRAMEWORK

Information for horticultural farmers can be obtained from various information sources. Only now can information sources be easily found, but the problem is that many horticultural farmers need access to and utilize information properly. Differences can be found between farmers in accessing and utilizing information. Differences in accessing and utilizing information are related to farmers' economic and individual profiles. The individual profile of farmers is measured by gender (X1.1), age (X1.2), education level (X1.3), activity in farmer groups (X1.4), and contact with extension workers (X1.5). The farmer's economic profile is measured by type of commodity (X2.1), length of farming (X2.2), land holding area (X2.3), land holding status (X2.4), income level (X2.5), number of family dependents (X2.6), and level of communication media ownership (X2.7). Commodity type, land ownership area, and land ownership status are associated with farming characteristics proposed by [Soekartawi \(2003\)](#). The level of communication media ownership is associated with the three categories of communication media proposed by [Lewis et al. \(2004\)](#). Level of information access (Y1) with indicators of information sources and ease of accessing information. [Van Den Ban and Hawkins \(1999\)](#) explain various sources of information that farmers can use to gain knowledge and information. Regarding the level of information access, the level of information utilization (Y2) is an indicator of the stages of information utilization, according to [McGuire \(1989\)](#), among other things, is used to learn something and understand it, used as comparison material with existing

conditions, practiced as a skill, used as discussion material, and passed on to others. Different individual farmer profiles and farmer economic profiles will determine different levels of access and utilization of information. By knowing the economic profile of farmers and the profile of individual farmers, we can find out the level of access and utilization of information for horticultural farmers. The level of access and utilization of horticultural farmer information is related to the farmer's social and economic profile. This relationship has significant implications for the design of information dissemination strategies and the development of targeted support programs. A brief framework of thinking is presented in Figure 1.

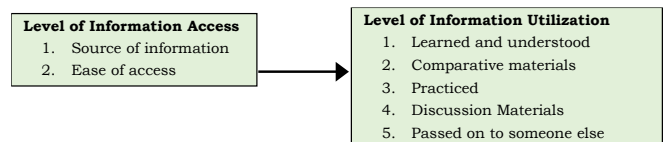


Figure 1. Framework of thought.

Hypothesis: Based on the framework above, a hypothesis for this research was formulated: It is suspected that the level of information access has a significant positive relationship with the level of information utilization.

MATERIALS AND METHODS

This research is survey research with an explanatory method. The research was conducted using a quantitative approach supported by qualitative data. The research was conducted in Raoda Village, Lambai District, North Kolaka Regency. The choice of research location was carried out purposively because most of the residents in Raoda Village are farmers, with the commodities cultivated by farmers mostly being horticultural crops. The research was carried out within four months, from January to April 2024. The population in this study consisted of residents of Raoda Village, Lambai District, who worked as horticultural farmers, totaling 116 horticultural farmers. The unit of analysis taken is the individual. The method used in determining respondents is the accidental sampling method, namely by taking cases or respondents who happen to exist or are available in a place according to the research context [Notoatmodjo \(2010\)](#). The number of respondents sampled was 35 people. The respondents selected in this research were related stakeholders such as the Village Head, Chair of Gapoktan, community leaders, village officials, and women farmers. The data in this research is divided into two types, namely primary and secondary data. Primary data was meticulously obtained through interviews and direct observation at the research location. In conducting direct observations, researchers also conducted in-depth interviews with



respondents and informants by referring to questionnaires and question guides. Secondary data is obtained from written documents in the form of official documents from related agencies. Secondary data was obtained from various related agency documents, books, previous research results, scientific journals and other writings that are closely related to the research.

This research has two types of data that will be processed and analyzed: quantitative and qualitative. The Microsoft Excel application processed Quantitative data using cross-tabulation processes and frequency tables. The latest version of Excel in Microsoft 365 and IBM SPSS Statistics 20.1 were used to assist researchers in understanding data, analyzing trends, forecasting, and planning to test assumptions and draw accurate conclusions. Qualitative data was analyzed through three stages: data reduction, data presentation, and verification. The research results were concluded by comparing the results of the consistent analysis between variables, ensuring a comprehensive and rigorous analysis process.

RESULTS AND DISCUSSION

General Description of Raoda Village: Raoda Village is in Lambai District, North Kolaka Regency, Southeast Sulawesi Province. Raoda Village consists of 4 hamlets. Geographically, Raoda Village borders directly with several villages, including the Mowewe Village, Kolaka Regency; to the south, it borders Lapisipasi Village; to the west, it borders Latawaro Village and to the east, it borders Latawaro. The area of Raoda Village is 17.05 Km2 or 1,705 Ha, consisting of an agricultural area of 1,524 Ha, and the remainder is fishing land and residential yard land.

Based on monographic data from Raoda Village, it is evident that the level of public education in the village is a pressing issue. With only 40 percent of the population having completed elementary school (SD) education, there is a clear need for improved educational opportunities. The majority of residents in Raoda Village are farmers, and enhancing their education can significantly impact agricultural practices and productivity. This is particularly important given that farming is the primary livelihood in the village and is deeply rooted in its culture and natural conditions.

Information facilities and infrastructure, especially in the agricultural sector, are crucial for farmers to access and utilize agricultural information. However, in Raoda Village, these resources are not sufficient, posing a significant challenge for farmers. The available facilities and infrastructure, such as cell phones, radio, television, agricultural newspapers/magazines, the internet, or through farmer groups and extension workers, need to meet the needs of the farmers. According to farmers, the government's response to providing these facilities and infrastructure needs to be revised, leading to a situation where farmers struggle to access and utilize agricultural information quickly and accurately.

Level of Information Access: The level of information access is the ability of horticultural farmers to search for and obtain information. Through interviews, respondents stated that access to agricultural information included the ease of obtaining information and sources of information used by farmers, including extension workers, fellow farmers, agricultural production input traders, television, radio, and agricultural magazines. Furthermore, the number and percentage of information sources can be seen in Table 1. Table 1 shows that in Raoda Village, most farmers get information from interpersonal media, namely fellow farmers, with a percentage of around 57 percent, with the

Table 1. Percentage of respondents according to the information source.

No.	Resources	Information topics					Amount
		PR	BYD	PYD	PHDP	PHP	
1.	Interpersonal media						
	- Counselor	1,7	3,5	7	5,3	0	17,5
	- Fellow farmers	8,8	12,3	12,3	14	10,5	57,9
	- Saprotan trader	0	3,5	12,3	8,8	0	24,6
	Total	10,5	19,3	31,6	28,1	10,5	100
2.	Conventional media						
	- Television	12,5	0	25	25	12,5	75
	- Radio	0	0	0	0	12,5	12,5
	- Agricultural newspapers/magazines	0	12,5	0	0	0	12,5
	Total	12,5	12,5	25	25	25	100
3.	Hybrid media						
	- Internet	0	0	0	0	0	0

Information : PT: Tillage, BYD: Seeds Used, PYD: Fertilizer Used, PHDP: Pest And Disease Control, PHP: Crop Management



information topic often discussed being pest and disease control, with around 14 percent. This is because information obtained from fellow farmers is more accessible than from other sources of information. Farmers get information from agricultural production input traders, namely around 24 percent. Some farmers get information through conventional media, namely television, with a percentage of around 75 percent.

In conventional media, farmers access information more through television, even though, in reality, television shows mostly show entertainment programs; it is rare for television programs to show programs about agricultural information. In hybrid media, farmers can only get information sources via the internet if they can apply it, even though the internet is actually easy to use and can also be accessed in Raoda Village. The numbers and percentages based on the level of information access can be seen in Table 2.

Table 2. Number and percentage based on level of information access.

No.	Category	Level of Information Access	
		Amount (n)	Percentage (%)
1	Low	20	57,1
2	Currently	15	42,9
	Total	35	100,0

Based on Table 2 shows that the level of access to information for farmers in Raoda Village is still relatively low with a percentage of around 57 percent. It is said to be low because respondents access information from only one to two sources of information and most of the information comes from fellow farmers and traders of agricultural production inputs. This is due to the difficulty of accessing sources of information regarding agricultural information obtained by horticultural farmers, lack of attention to sources of information regarding agricultural information by the local government, which in reality in Raoda Village most work as farmers, and most of the respondents only exchange information from fellow farmers and carry out activities. Farming businesses, from tilling the land to managing their harvests, only rely on the capabilities of the farmers themselves.

Level of Information Utilization: In this research, the use of information seen is the stages in the use of information [McGuire \(1989\)](#), namely: (1) used to learn something and understand it, (2) used as comparison material with existing conditions, (3) practiced as a skill, (4) used as discussion material, and (5) passed on to other people. Information utilization is the effect of information that has been received, accessed, and controlled by farmers ([Matindas, 2011](#)). Details regarding the use of information based on stages in the use of information according to [McGuire \(1989\)](#) can be seen in Table 3.

The data in Table 3 shows that the majority of farmers in Raoda Village utilize agricultural information only up to stage one; that is, it is only used to study and understand information topics from land cultivation with a percentage of around 63 percent, seeds used with a percentage of around 60 percent, fertilizers used with the percentage is around 48 percent, and crop management with a percentage of around 69 percent. Only the topic of conversation, pest and disease control, is in the third stage, namely being practiced with a percentage of around 51 percent. Details of the utilization of agricultural information can be seen in Table 4.

Table 3. Percentage of respondents according to stages of information utilization ([McGuire, 1989](#)).

Information Topics	DDD	BP	DP	BD	DKOL	Total
	%	%	%	%	%	%
PT	63,6	0	24,2	6	6	100
BYD	60,6	6	21,2	9	3	100
PYD	48,4	9	30,3	9	3	100
PHDP	36,4	3	51,5	6	3	100
PHP	69,7	0	21,2	9	0	100

Information: Information topics: (PT: soil processing, BYD: seeds used, PYD: fertilizer used, PHDP: pest and disease control, PHP: crop management), stages of information utilization (DDD: studied and understood, BP: comparative material, DP: put into practice, BD: discussion material, DKOL: passed on to others).

Table 4. Number and percentage based on level of information utilization.

No.	Category	Level of Information Utilization	
		Amount (n)	Percentage (%)
1	Low	20	54,1
2	Currently	11	31,4
3	Tall	4	11,5
	Total	35	100,0

The data in Table 4 shows that the level of information utilization of farmers in Raoda Village is still relatively low, namely around 54 percent. It is due to farmers' need for more access to information, which makes it difficult for them to utilize information about agriculture. Farmers also feel that the facilities for obtaining agricultural information in Raoda Village still need to be improved.

Level of Information Access with Level of Information Utilization: The level of access to information in this research is measured by the ease of accessing information and getting information from where and from whom. The level of information utilization in this study was measured based on the information stages, according to [McGuire \(1988\)](#), namely (1) used to learn something and understand it, (2) used as comparison material with existing conditions, (3) practiced as a skill, (4) used as discussion material, and (5) passed on to others. A cross-tabulation between the level of information



access and the level of information utilization can be seen in Table 5.

Table 5. Level of access to information and level of information utilization in Raoda Village in 2024.

Level of Information Access	Level of Information Utilization			
	Low %	Medium %	High %	Total %
Low	70	30,0	0	100
Currently	40	33,3	26,7	100

In Table 5, the variable level of access to information influences the level of information utilization carried out by horticultural farmers. Most respondents whose level of access to information is relatively low have a relatively low level of utilization. There were no respondents whose level of access to information was classified as high and whose level of information utilization was also classified as high.

DISCUSSION

The Spearman Rank test results for the level of information access to the level of information utilization are 0.369* and the probability value (sig) is 0.029 (p<0.05), by the results of the correlation test showing that there is a real relationship between the level of information access and the level of utilization. information. This correlation value shows that the higher the access to information obtained by farmers, the greater the ability of farmers to make good use of agricultural information. This is because farmers have very little access to agricultural information and farmers are not making optimal use of their agricultural information. Non-existent facilities and infrastructure are some of the factors that cause farmers to be less than optimal in accessing and utilizing agricultural information as well as a lack of attention from the local government regarding the importance of accessing and utilizing information even though in Raoda Village most of the residents work as farmers. Extension agents who rarely provide outreach and farmer groups who are no longer active are factors why farmers are not optimal in accessing and utilizing agricultural information. It can be concluded that there is a real relationship between the level of information access and the level of information utilization.

Conclusion: Based on the results of the research that has been carried out, the following conclusions can be drawn:

1. The level of access to information in Raoda Village is included in the low category because there are no adequate facilities and infrastructure for farmers to be able to access information properly and farmer groups have not been active for a long time and the lack of extension workers who come to Raoda Village makes it difficult for farmers to access information. Farmers in

Raoda Village are not yet able to access information quickly.

2. Farmers in Raoda Village get information from several sources of information, namely extension workers, fellow farmers, agricultural production input traders, television, radio, and agricultural newspapers/magazines. However, most farmers get agricultural information through fellow farmers because getting information from fellow farmers is much easier than from other sources of information.
3. The level of information utilization in Raoda Village is included in the low category. This is due to a lack of access to information which makes it difficult for farmers to utilize information about agriculture. Farmers also feel that the facilities for obtaining agricultural information in Raoda Village are still inadequate.

Authors Contributions Statement: Idrus. M., Ismail designed, and completed the experiments; Akhmad, Nasir. M., Sribianti. I. prepared the draft; Idrus. M., Ismail reviewed and finalized the draft.

Conflict of Interest: The authors declare no conflict of interest.

Acknowledgment: The authors would like to thank all those who have participated in this research

Funding: This study did not receive any funding

Ethical Statement: This article does not contain any studies regarding human or Animal.

Availability of Data and Material: We declare that the submitted manuscript is our work, which has not been published before and is not currently being considered for publication elsewhere.

Code Availability: Not applicable

Consent to Participate: All authors participated in this research study.

Consent for Publication: All authors submitted consent to publish this research. article in JGIAS

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