

## **INFORMATION LITERACY AMONG EXTENSION WORKERS IN CIANJUR REGENCY**

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### **ABSTRACT**

In the era of information overload, agricultural extension as agents of agricultural development needs to have information literacy because most of their main tasks and functions are related to the activities of collecting, processing and distributing agricultural information. This study aims to identify information literacy among extension workers and analyze the relationship between individual characteristic and information literacy among extension workers. The study sample was 80 extension workers in Cianjur Regency, West Java Indonesia. The method of analysis uses descriptive statistics and inferential statistics using Rank Spearman correlation to analyze relationships between variables. The results showed that the information literacy level of agricultural extension workers was classified as moderate, especially in storing and retrieving information, using information effectively and ethically, and communicating knowledge. Extension agents have a high ability in terms of recognizing the information needed, finding and evaluating it. Individual characteristic factors that have a real relationship with information literacy are age, formal education level, and working experience.

**Keywords:** information literacy, agriculture extensions

### **INTRODUCTION**

Information has a central role in modern life and also in the agriculture sector (Csoto 2010) [1]. The main purpose of using agricultural information is to increase agricultural productivity. This was followed by an increase in the quality of production and production planning, increasing the sustainability of agriculture, marketing agricultural products and handling pests (Akanda and

Roknuzzaman 2012) [2]. Increasing information services to farmers will accelerate the process of technology transfer that has been produced by research institutions (Andriaty & Setyorini 2012) [3].

Changes in the context of information communication in the form of the emergence of the internet and media social networking devices cause differences in the amount and quality of information produced so that information becomes too much (Bawden & Robinson 2009) [4]. The information overload occurs when someone opens up too much information compared to the capacity they can fulfill in processing it (Eppler & Mengis 2004, Farhoomand & Drury 2002) [5,6]. Bawden and Robinson (2009) [4] call it losing control of the situation and sometimes there is a feeling of being overwhelmed by too much information.

Information overload is the inevitable result of digital revolution and information literacy is needed to overcome it (Bawden & Robinson 2009) [4]. Information literacy namely awareness of one's information needs, identifying, accessing effectively efficiently, evaluating, and combine information legally into knowledge and communicate that information (Lasa 2009) [7]. Human literate information will be able to (1) recognize information needs, (2) find and evaluate information, (3) save and retrieve information, (4) use information effectively and ethically, and (5) communicate knowledge (Catts and Lau 2008) [8]. Information literacy is the main supporter of sustainable development and for building character because it teaches critical thinking in understanding, interpreting and using information needed for development (Gorman 2003) [9]. Information literacy is related to the concept of lifelong learning because: (1) it is motivated and directed by oneself, (2) self-empowerment, and (3) self-motivation (Horton 2007) [10]. Capabilities Information literacy is a set of skills and knowledge that not only helps us to find, evaluate and use the information needed, but also a very important thing that is inviting us to filter out information that is not needed (Eisenberg 2008) [11].

As a provision for lifelong learning and the main supporter of sustainable development, information literacy is needed for every individual, including agricultural extension workers. Agricultural development is inseparable from the strategic role of agricultural extension agents as a party that bridges farmers with agricultural innovations so that there is a change in knowledge, attitudes and skills in farming. Agricultural extension workers convey information to farmers in order to facilitate decision making (Van den Ban and Hawkins 1996) [12]; disseminating information relating to efforts to improve farming and farming methods in order to achieve increased productivity, farmers' income and improving community or family welfare (Mardikanto 2010) [13]. Christoplos (2010) [14] states that extension agents as a system that facilitates access for farmers, farmer groups and other actors to knowledge, information and technology, connects farmers with research, education, agribusiness, marketing and other related

institutions, and helps them develop techniques, skillful and practical organization and management capabilities.

Meanwhile the information age gave to many learning media choices that can be used to improve capabilities, but in reality the competence of extension agents is still low (Anwas 2009) [15]. In line with the development of science and technology in agriculture, the dissemination of information through print and electronic media is increasing. Both of these media are very potential for extension agents and farmers as sources for obtaining agricultural information. However, the availability of such information sources does not guarantee that information is used by farmers or extension agents (Andriaty & Setyorini 2012) [3].

Various research results show that agricultural extension agents are the main source of farmers in obtaining agricultural information (Tamba & Sarma 2007 [16], Ardu 2007 [17], Andriaty & Setyorini 2012 [3], Hernanda 2015 [18]). This situation requires extension agents to have information literacy skills in carrying out their main tasks and functions as an effort to develop performance in supporting agricultural development. Because information literacy and technology are basic 21st century skills that are widely recognized and accepted for all types of work from the lower level to the top executives (Eisenberg 2008) [11]. Based on current extension conditions, Cianjur Regency was chosen as the research location because Cianjur Regency is one of the regions with potential for agribusiness development in West Java, especially food crops and horticultural commodities so that the role of extension agents and their skills in finding and presenting filtered information is useful for farmers become important competencies that must be owned. In accordance with the problems described above, the purpose of this study is to identify agricultural extension information literacy, analyze individual factors related to agricultural extension information literacy in Cianjur Regency.

## **RESEARCH METHODS**

Research was designed as survey research descriptive correlational nature by presenting data obtained from respondents through questionnaires and interviews. The study was conducted in Cianjur Regency. The number of samples was determined following the Slovin provisions with a tolerance limit of 5 percent from 100 populations so that the samples taken were 80 people. Data collection was carried out in April-June 2018. The variables assessed were individual characteristics and information literacy skills of agricultural extension officers. The data used in the study include primary data and secondary data. Primary data in the form of the main variables that want to be studied are obtained directly by interviewing respondents using the questionnaire provided. In-depth interviews and focus group discussions with several respondents were conducted to obtain qualitative data as quantitative data reinforcement. Secondary data related to the focus of the research was obtained from recording the data of the

relevant agencies. Descriptive statistical data analysis uses frequency and percentage, and inferential statistics using the rank Spearman correlation test with the help of the SPSS version 22 program to see the degree of closeness of relationships between variables.

### **Extension Workers Information Literacy**

Information literacy variable based on information literacy components by Catts and Lau (2008) [8] consist of recognise information need, locate and evaluate information, store and retrieve information, store and retrieve information, make effective and ethical use of information, and apply information to create and communicate knowledge. Respondent information literacy skills are in Table 1.

**Table 1: Number and Percentage of Literacy Capability of Agricultural Extension Information Cianjur Regency Northern Region Year 2018**

<b>No</b>	<b>Information literacy ability</b>	<b>Category</b>	<b>Frequency (person)</b>	<b>Percentage (%)</b>
1	Recognise information needs	Low	11	13.75
		Medium	25	31.25
		High	44	55.00
2	Locate and evaluate information	Low	13	16.25
		Medium	33	41.25
		High	34	42.50
3	Store and retrieve information	Low	16	20.00
		Medium	53	66.25
		High	11	13.75
4	Use information effectively and ethically	Low	1	1.25
		Medium	51	63.75
		High	28	35.00
5	Communicate knowledge	Low	17	21.25
		Medium	57	71.25
		High	6	7.5.00

### **Recognise information needs**

Identifying information needs is the first step that also distinguishes information literacy from passively accepting the information provided. This awareness is not static capacity but a need that needs to be applied in every condition (Catts & Lau 2008) [8]. At the stage of recognizing

the information needs of respondents, they have high abilities (Table 1). The steps carried out by the extension workers in recognizing the information needs needed are to first formulate what information to look for. Extension agents analyze information needs by discussing with farmers. Information sought by extension agents is also information needed by farmers. The counseling material delivered to farmers is not only the initiative of extension workers but also the wishes of farmers. This illustrates that the development message delivered is no longer focused from the center (top down) but is also an aspiration from the bottom (bottom up). In addition to asking farmers, the extension workers analyzes information needs by describing the information needed. Discussing and sharing information with colleagues is one method used in analyzing information needs. Diehm and Lupton (2012) explain that students use three main strategies for learning information literacy, namely learning by doing, learning by trial and error; and learning by interacting with others.

### **Locate and Evaluate Information**

At the stage of finding and evaluating information, the capacity of extension agents is high (Table 1). When searching for information, the form of information that is mostly chosen by extension agents is in electronic and printed form. Most extension workers search for information through the internet. Extension agents search for information on the internet using more Google search engines than other search engines. According to Google extension agents, it is widely used because it is more familiar, easy to use and can find information from various sources. the page frequently visited by extension agents is the ministry of agriculture's website. The most widely used media to access the internet is a smartphone. This is consistent with what was stated by Aker (2011) [19] that smart phones can increase access and use of information about agricultural technology and potentially improve farmer learning. When accessing information from the internet, most extension workers use keywords and use the search feature further in search engines, but some still use intact sentences. Information that has been found is evaluated by extension agents by comparing with new findings / knowledge and asking experts. This is done to ensure the credibility of the information found. This is consistent with what was found by Thiga and Ndungu (2015) [20] that most counselors evaluate information sources for clarity of accuracy, relevance and credibility of the quality of information sources.

### **Store and retrieve information**

The ability to store and retrieve information is the activity carried out by extension agents to save and rediscover information that has been found. At this stage the ability of the extension workers is classified as moderate (Table 1). Most extension agents store information found on a computer. But there are also extension workers who only take the essence of the information found to be used as a new form without saving the source of the information. Extension files on

the internet are downloaded and stored on a computer to reduce internet access. The file will be reused for reading material. In addition to computer storage media selected by extension agents is a flash disc and there are also extension workers who have stored data in the cloud through the drive. Data in the field also shows that there are also extension agents who print information found and stored for extension materials or supporting career development activities. The Thiga Study (2015) [20] found that some extension workers did not keep copies of information as new knowledge.

### **Using Information Effectively and Ethically**

Effectiveness of information use was seen from resolving problems and critical thinking skills (Catts and Lau 2008) [8]. At this stage the ability of the extension workers is classified as moderate (Table 1). Research data shows that most extension workers have the ability to understand and analyze the information found. The information sought is only for resolving the counseling problems they experience not for in-depth analysis. According to extension workers the information found was relevant to their needs because they had chosen sum source of information that is considered able to answer their problems. The study results of Bartola et al (2018) [21] found that students did not care about the importance of the stages of synthesis analysis in consulting various sources of information and using various information in their essays, instead they only used one source document choice to be reprocessed. The findings in the field show that extension agents tend to use only one source of information in solving their problems because of the proximity of the location, credibility of the source of information, and consideration in seeking information such as time and costs. taken from other people's work so that plagiarism does not occur. In safeguarding the ethics of extension workers filtering out information that may be disseminated with information that may not be disseminated. In monitoring in the field each extension workers in reporting activities attached with photos, the photo must contain the actual conditions related to the implementer, location, time and name of the activity. So that extension workers must install applications that can display the information on their smartphones, for example, open camera applications. This is done so that the reports submitted are in accordance with the actual conditions and are related to the ethical use of information by extension agents to avoid plagiarism from and by other sources.

### **Using Information to Create and Communicate Knowledge**

In Table 1, it can be seen that the ability of extension workers to use information to create and communicate knowledge is classified as moderate. The steps taken in communicating the knowledge produced is to choose the most appropriate media to communicate it to farmers by making extension media such as slides, photos, or videos. In addition to communicating knowledge to farmers, extension agents choose information technology applications to

communicate it such as by using a projector, laptop, or display on a smartphone screen. This variety of media is made in a language that is easily understood by farmers. The findings in the field show that although farmers have their own access to the internet and can use it but they experience limited understanding of the information found because the language is very technical and tends to be scientific. Therefore the existence of extension agents is needed to translate the language into a language that is easily understood by farmers. This problem makes extension workers also have to use language that is easy to understand in communicating information that has been found to farmers. In order to communicate information and knowledge in writing almost most extension workers do not have scientific papers or popular writing. Although there are some extension workers who write books, articles, research journals or popular writing on social media, the numbers are very small. Lack of interest in extension workers in writing papers is recognized because of the tight working hours and lack of time to read references. This is in accordance with Rufaidah's study (2013) [22] librarians and library managers information literacy competencies within the Ministry of Agriculture need to be improved, especially the ability to evaluate and utilize information and communicate information obtained in published papers.

### **RESPONDENTS' CHARACTERISTICS**

In general, a person's age has an influence on the level of maturity of individuals in thinking and acting. Age also affects a person's physical strength in activities and a person's ability to learn. Age will affect a person's ability to learn, understand, accept, and apply a technology such as information and communication technology (Gultom 2016) [23]. The level of education provides consequences for improving status and role and is certainly a promotion, so that many extension workers continue their undergraduate and postgraduate education both at their own expense and official costs (Suhanda et al 2008) [24]. Andragogic competencies, such as tutorials, learning facilities, and training are dominant factors that indirectly affect the performance of extension agents (Huda et al 2010) [25]. The length of the working period is closely related to the ability of the extension workers to appreciate the situation, meaning that the extension workers's ability to adapt to the client will be better (Bahua et al. 2010) [26].

Most respondents are young to adult (23 -47 years) The findings in the field found that the average age of extension workers was young because of the program to procure independent labor assistants for agricultural extension workers (THL TBPP). Most of the extension workers had undergraduate education, others were diploma and high school graduates. This shows that agricultural extension workers at the study sites already have a high level of formal education, but for non-formal education is still very low. Low training hours due to lack of opportunities from the relevant agencies in order to develop extension capacity. Extension agents have never

received information literacy training from any party. The working period of the extension worker is classified as new, ranging from 3 to 10 years working as an agricultural extension workers with a percentage of 77.5%. This shows that there is quite a long working distance between senior extension workers and young extension workers because there is no appointment of agricultural extension agents for a long time. Read more about the characteristics of respondents in Table 1

**Table 1: Characteristics of agricultural extension officers in the Cianjur Regency**

No	Profile of extension agents	Category	Frequency	Percentage (%)
1	Age	Young (23-34 Years)	30	37.50
		Adult (35-46 Years)	31	38.75
		Old (47-59 Years)	19	23.75
2	Formal Education Level	Senior High school	13	16.30
		Diploma	13	16.30
		Scholar	54	67.50
3	Level of Non-formal Education	Low (0-2)	56	70.00
		Middle (3-5)	19	23.75
		High (6-7)	5	6.25
4	Work experience	New (3-10 years)	62	77.50
		Moderate (11-12 years)	7	8.75
		Old (27-37 years)	11	13.75

### **Relationship Between Individual Characteristics and Information Literacy**

The relationship between extension workers characteristics with information literacy was analyzed using Spearman rank correlation analysis. Correlation coefficients of each variable are listed in Table 5



**Table 5: Correlation Coefficient Characteristics of Extension with Information Literacy Agricultural Extension Information in Cianjur Regency 2018**

Variable	Recognise information need	Locate and evaluate information	Save and retrieve information	Use information effectively	Communicating knowledge
Age	-0.273*	-0.244*	-0.157	-0.028	-0.122
Formal education	0.116	0.183	0.056	0.319**	0.295**
Nonformal education	0.095	-0.059	0.071	0.096	0.154
Work life	-0.254*	-0.134	-0.090	-0.089	-0.132

Description \* = significantly related to the level of 0.05, \*\* correlates very significantly at the level of 0.01

Characteristics of extension agents that are significantly related to information literacy are age, formal education level, and work experience. The relationship between age and information literacy correlates negatively and markedly, which indicates that the lower the age of the extension workers, the higher the literacy ability of information. Age is negatively related to the ability to realize information needs, seek and evaluate information. The lower age the respondent's ability to realize needs, to find and evaluate information will be higher. The same thing also happens with working experience indicators. The working period is significantly and negatively related to information literacy skills. This can be interpreted the lower the working period, the higher the literacy ability of information This is in accordance with the results of Bakti (2012) [27] that higher work experience lower informatio literacy. Because extension workers who have high tenure are extension workers who are also old. This is in accordance with the results of information research Mashroofa and Senevirathne (2014) [28] which states that age, gender, and education level affect farmers' information literacy skills. The younger generation is better able to use computers and internet, audio, video material and other printed materials. While the relationship between the level of formal education and information literacy correlates positively and markedly at the stage of using and evaluating information and communicating knowledge. This shows that the higher the level of formal education, the higher the ability to use and evaluate information and communicate knowledge. This is in accordance with the results of Wahyuli's (2008)[29] study which states that the educational strata influence the level of literacy mastery.

## CONCLUSION

Based on the results of the study it can be concluded that: The level of information literacy capabilities of agricultural extension workers are classified as being moderate especially in storing and retrieving information, using information effectively and ethically, and communicating knowledge. Extension agents have a high ability in terms of recognise information need, finding and evaluating it. The characteristics of the extension workers are significantly related to information literacy including age, the level of formal education. And working experience The relationship between age and years of work with information literacy is negatively and significantly correlated, the relationship between the level of formal education and information literacy is positively correlated and real.

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