

Digitalization Of Agricultural Extension Activities In South Kalimantan Wetlands

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Abstract. This study aims to analyze the digitization of agricultural extension activities in the wetlands of South Kalimantan. The analysis technique used is descriptive analysis. This research was conducted in four districts in South Kalimantan with the number of research respondents as many as 100 Agricultural Extension Officers (PPL). The results obtained from digitizing agricultural extension activities in the wetlands of South Kalimantan show: (1) The intensity of internet use by PPLs in the preparation and implementation of agricultural extension activities every planting season (business period) is around 4-5 times. (52%), 2 - 3 times (42%), less than 1 time (4%) and more than 6 times (2%), (2) The intensity of use of social media platforms by PPL for agricultural extension activities is Whats app (100%), Youtube (97%), Facebook (94%), Instagram (46%), Line (6%), (3). The intensity of use of special applications for Agricultural Extension for Planting Calendar (KATAM) (100%), CyberExtension (47%), i-Tani (22%) and MyAgry (11%).

Keywords: digitization, internet, social media, extension, agriculture

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I. Preliminary

Counseling is a learning process for the main actors and business actors so that they are willing and able to help and organize themselves as an effort to increase their productivity, business efficiency, income, and welfare. Along with advances in information technology, agricultural extension workers are required to be more creative in delivering extension materials. The use of audio-visual media is absolutely necessary. (Saputra, 2016). Internet-based counseling media can be used inside and outside the meeting to replace in-room counseling, but if the two are combined, the counseling will be more effective and flexible. Everyone can listen to the material through the uploaded video. Dissemination of information becomes wider and more quickly reaches the target of counseling. (Atoel, 2011).

The main problem is that there are still many people who do not know how to use the internet and social media platforms in agricultural extension, then there are also people who only use the internet and social media applications to find entertainment and pornographic information, but on the one hand the development of information technology has not been utilized effectively. maximally by agricultural extension workers to increase their work productivity to improve the knowledge and skills of the wider community.

Based on this background, it is necessary to conduct research in this activity aimed at digitizing agricultural extension activities in the wetlands of South Kalimantan

II. Method

The research was conducted in four regencies in South Kalimantan, namely Barito Kuala Regency, Banjar Regency, Hulu Sungai Selatan Regency and Hulu Sungai Utara Regency. The location of the research was determined intentionally, with the consideration that the location is a wetland environment and has good farming practices. wide and still exist every year. The research activity was carried out for six months, starting in May 2022 until October 2022.

Subjects in this study were respondents. Respondents are people who are chosen to tell about themselves or who experience directly the social phenomenon being studied. Informants are people who can provide information about themselves, others, and the environment. The unit of analysis in this research is the Field Agricultural Extension Officer (PPL) on duty in the research area. The population in this study were all Field Agricultural Extension Officers (PPL) in the research location. The sampling technique in this study was a stratified random system starting with a random selection of Agricultural Extension Centers (BPP) by simple random sampling, followed by selecting a sample unit (PPL) also using simple random sampling so that 100 people were selected as samples.

Qualitative and quantitative data processing is carried out through data reduction, namely sorting, focusing, and simplifying the data so that it can be used to answer research objectives. Quantitative data obtained through questionnaires will be processed using Microsoft Excel 2010 and then described.

III. Results And Discussion

3.1 The intensity of internet use by PPLs in the preparation and implementation of agricultural extension activities every planting season (business period) in the Wetlands of South Kalimantan

There is a description of the use of the internet and various social media platforms as information media for the delivery of agricultural extension activities by agricultural extension workers (PPL) in the wetlands of South Kalimantan, which we present below will contain the use of the internet by PPLs in preparing extension materials and delivering these materials to farmers, obtained the following results:

Table 3. The intensity of internet use by PPLs in the preparation and implementation of agricultural extension activities every planting season (business period) in the wetlands of South Kalimantan in 2022

No.	Internet usage intensity (times)	Number of users (person)	Percentage (%)
1	<1	4	4
2	2 - 3	42	42
3	4-5	52	52
4	> 6	2	2

Source: Primary data processing 2022

The intensity of internet use by PPLs in the preparation and implementation of agricultural extension activities every planting season (business period) in the next South Kalimantan wetlands and the largest number is the use of the internet in the preparation and implementation of extension activities as much as 4-5 times with a percentage of 52%. Where during the preparation and implementation of counseling activities, PPL respondents very often use the internet in searching for literacy sources as material in making extension materials to be carried out, there is a feeling of lack in PPL if they prepare extension materials which they will deliver if they do not seek and compare counseling materials with what is on the internet.

The intensity of internet use by PPLs in the preparation and implementation of agricultural extension activities each time the planting season (business period) in the next South Kalimantan wetlands is the use of the internet as much as 2-3 times both for preparation and for the implementation of agricultural extension activities. The number of PPL respondents in this range amounted to 42 people or 42% of the research respondents. The main reason respondents use the internet in preparation and extension activities is to facilitate the implementation of activities and strengthen the preparation of extension materials to be delivered.

There are 4% of PPL respondents in the wetlands of South Kalimantan using the internet only once or never in preparing and implementing extension activities that they will convey to farmers who are members of the assisted farmer groups, the proximity and convenience factors they provide. have with the assisted farmers who are members of farmer groups that cause this. The last group in the use of the internet by PPLs in the preparation and implementation of agricultural extension activities every planting season (business period) in the South Kalimantan wetlands is the PPL group who use the internet more than 6 times each planting season in each farmer group. This group can be said to be able to carry out hybrid extension activities between extension activities by visiting farmer groups as well as conducting extension activities using the internet network. Even one PPL has been able to try to carry out meeting activities online using zoommeeting so that there is already material delivered using the internet.

1.2. Intensity of PPL use of social media platforms for agricultural extension activities in South Kalimantan Wetlands

Ownership of social media is something that seems mandatory for everyone today, various social media in cyberspace can be downloaded for free and even offered commercially both on the internet and in the television world. So it is not wrong if almost all of the PPL already have a variety of social media. Every PPL who is a respondent of this research will have at least 2 – 3 social media that they actively use every day, both for communicating, reading news, watching news, entertainment or just sharing the thoughts and feelings of the PPLs in the form of stories or status on social media. the. Here we present the use of social media in agricultural extension activities in South Kalimantan:

Table 2. PPL's use of social media platforms in agricultural extension activities in the wetlands of South Kalimantan

No.	Types of Social Media	Number of users (person)	Percentage (%)
1	<i>Youtube</i>	97	97
2	<i>Facebook</i>	94	94
3	<i>Whatsapp</i>	100	100
4	<i>Instagram</i>	46	46
5	<i>Line</i>	6	6

Source: Primary data processing 2022

The use of the highest social media platform used by PPLs is whatsapp social media, ownership of a mobile phone that allows to download and use this application is one of the reasons why this social media is used by all PPLs who are respondents in this study, besides that the use is not too difficult. as with the conventional use of mobile phones to send messages (sms) or make voice calls, it is very easy to use this social media. Coupled with the video call facility that can be used individually or in groups (groups), it is certainly very easy for PPLs to use this social media in order to establish communication with their fostered farmers.

The use of social media platforms in the next agricultural extension used by PPLs is YouTube social media with a usage amount of 97% of research respondents. However, there are two uses of YouTube here, namely active users and passive users. Active users are youtube users who are actively watching existing shows and are also active to upload videos on their youtube channel and already have subscribers. While passive users are only youtube channel users who watch various available shows and only become subscribers of youtube users who have been able to inspire views or videos on their youtube channel. Of the 97% earlier, 60% are passive youtube users, many of the activities they do are just watching and looking for videos or impressions from the youtube channels that they have accessed. Meanwhile, 40% are relatively active youtube channel users with at least 1 time uploading a video to their YouTube channel, whether related or not related to agricultural activities.

On average, PPLs have used the FaceBook social media platform for more than 5 years and some even claim to have used a FaceBook account from 2009 which means that they have used the account for 13 years, although in that time period it is not always intensive in use and is mostly used for friendship and entertainment needs only. PPLs admitted that they used FaceBook social media for the delivery of extension materials, most of which were uploaded on FaceBook social media were photos or videos of the results of extension activities or photos and videos of PPL's activities in farmer groups, whether just for field visits or other activities.

Of the PPLs who have an Instagram (IG) account, 46% claimed to have used an Instagram account as a means or medium for delivering messages in outreach activities, and even then only in the form of posting photos or short videos so that the information conveyed was not clear and demanded the extension worker to explain the purpose of the post. the photo or video to the farmers who received or saw the posts from the PPLs. The explanation given can be by sending messages with other social media that are easier for farmers to access or conducting conventional extension activities through visits to follow up on the introductory message sent through the Instagram account.

Another social media platform that is still used by PPLs is online social media accounts, the number of PPLs still using online is only 6 people or 6% of the 100 research respondents interviewed. The reason for still using the line social media account is because they claim to still have a group that uses the line social media, even though there are already rival groups from other social media such as whattapps, but for the reason of maintaining friendship so that the group using line is maintained. In terms of convenience, online social media has the same characteristics as WhatsApp social media because it will easily send messages, photos and videos briefly in friendship groups and will be easy to view and download by all group members.

1.3. The intensity of the use of special agricultural extension applications in agricultural extension activities in the wetlands of South Kalimantan

Agricultural extension activities by PPLs in the wetlands of South Kalimantan also use various applications that can be downloaded for free which are specifically used for agricultural extension activities such as Cyber extension, MyAgri, katam, Rice doctor and i-tani which share a lot of information in the agricultural sector. not limited either locally or from various regions in Indonesia and even from abroad as long as the application has been used by PPL and farmers. Here we present the use of special applications for agricultural extension activities used by PPLs in the wetlands of South Kalimantan.

Table 3. Intensity of use of special agricultural extension applications ole PPL in agricultural extensionactivities in the wetlands of South Kalimantan

No.	Agricultural extension app	Number of users (person)	Percentage (%)
1	<i>Cyber Extension</i>	47	47
2	<i>MyAgri</i>	11	11

3	Katam	100	100
4	i-Farm	22	22

Source: Primary data processing in 2022

The use of the KATAM application is intended to anticipate climate variability that can be accessed by anyone, both farmers and extension workers and stakeholders, both at the central and regional levels. The KATAM application also provides guidelines or tools that provide spatial and tabular information about season predictions, early planting time, cropping patterns, potential planting areas, drought and flood prone areas, recommended doses and fertilizer requirements, suitable varieties (on irrigated paddy fields), rainfed and swamp) based on climate forecasts so that it is possible to avoid crop failure due to climate variables in farming, the number of PPLs who use it is already 100% because it is very useful in agricultural extension activities.

The use of the next extension activity application is the use of the Cyber Extension application which reaches 47% of research respondents where this application will help farmers to disseminate their extension materials digitally and no longer disseminate conventionally which consumes a lot of cost and energy, in addition to the dissemination of material. Digital counseling will also make all extension activities can be archived and monitored properly because they will have a clear digital footprint partner and if needed can be viewed again about the material.

The next application that is also used is the i-Tani application where this application is an application that combines the features of reading digital books and interacting between residents through adjustable social media features. In i-Tani there is a membership period, number of book copies, borrowing time, and number of books to be borrowed. Not only that, i-Tani, which is equipped with social media features, can be accessed online and offline, be it via tablets, smartphones, laptops, or PCs. There are 22% of PPLs who have used this application which they tend to use to obtain extension materials that will be conveyed to farmers.

The last application that has also been used by PPLs is the application application *MyAgri* which has been used by 11% of PPLs in the wetlands of South Kalimantan. This application contains more information about varieties and cultivation of vegetable crops, calculating plant fertilizers, recognizing pests and diseases of vegetable crops and how to control them, spraying pesticides, agricultural machinery, post-harvest, market information, questions and answers with experts, and others. Although this application is specifically about vegetable crop cultivation, PPLs still use it because the farming activities of farmers in the wetlands of South Kalimantan are also diverse, including vegetable crops.

IV. Conclusion

Based on the results of the research that we carried out and the data analysis that we carried out, the following conclusions were drawn:

1. The intensity of internet use by PPLs in the preparation and implementation of agricultural extension activities every planting season (business period) is
 - a. 4-5 times per growing season by 52%,
 - b. 2 - 3 times per growing season by 42%
 - c. <1 time per growing season at 4%
 - d. >6 times per growing season at 2%,
2. Magnitude of intensity PPL's use of social media platforms for agricultural extension activities in the wetlands of South Kalimantan is
 - a. *Whatsapp* by 100%
 - b. *Youtube* by 97%
 - c. *Facebook* by 94%
 - d. *Instagram* by 46%
 - e. *Line* by 6%
3. Quantity The intensity of the use of special applications of agricultural extension by PPL in agricultural extension activities in the wetlands of South Kalimantan:
 - a. Cropping Calendar (KATAM) by 100%
 - b. *Cyber Extension* by 47%
 - c. *i-Farm* by 22%
 - d. *MyAgri* by 11%

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BIBLIOGRAPHY

- [1]. Hopma, A. Sergeant, L. 2011. *Planning education with and for youth*. UNESCO-IIEP. Paris
- [2]. Saputra, F. A. 2016. Efektivitas Penggunaan Media Audio Visual Dalam Penyuluhan Pertanian. Institut Pertanian Bogor, Bogor
- [3]. Singarimbun dan effendi, 1989. *Metode Penelitian Survei*, LPES: Jakarta.

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