Universitas Muhammadiyah Malang, East Java, Indonesia

Agriecobis
(Journal of Agricultural Socioeconomics and Business)

p-ISSN 2662-6154, e-ISSN 2621-3974 // Vol. 6 No. 01 March 2023, pp. 1-12

Research Article

The Relationship between the Facilities and Infrastructure of the Balai Penyuluh Pertanian (BPP) KOSTRATANI and Its Function as a Data and Information Center at BPP Sidomulyo and Candipuro in South Lampung Regency

Anggun Safitri[a,1], Indah Listiana [b,2*], Helvi Yanfika[b,3], Serly Silviyanti[b,4], and Kordiyana K. Rangga[b,5]
[a] Agricultural Extension and Communication Master's Student, Faculty of Agriculture, University of Lampung, Lampung
[b]Lecturer at the Faculty of Agriculture, University of Lampung, Lampung
[1]anggunsafitri23@gmail.com; [2] indahlistiana@yahoo.com*; [3]helviyanfika81@gmail.com; [4]serly0607@gmail.com; [5]korrangga@gmail.com
* corresponding author

ARTICLE INFO

Article history
Received December 5, 2021
Revised January 24, 2023
Accepted March 23, 2023
Published March March 30, 2023

Keywords
BPP
Data
Facilities
Infrastructure
Information

ABSTRACT

Agricultural Extension Service (Indonesian: Balai Penyuluh Pertanian; BPP) Strategic Command for Agricultural Development (Indonesian: Komando Strategis Pembangunan Pertanian; KOSTRATANI) serves as a crucial data and information center for agricultural extension activities. Through data collection, the BPP can provide extension workers with the necessary information to make informed decisions, create plans, and evaluate activities. As such, it is essential to support the role of BPP as a data and information center by providing adequate facilities and infrastructure. This study aims to examine the relationship between facilities and infrastructure and the function of BPP as a data and information center at BPP Sidomulyo and Candipuro in the South Lampung district. Data was collected in November 2021, and the study's respondents included 16 agricultural extension workers. The analysis was carried out using the Spearman rank statistic test, and the results revealed a positive relationship between facilities and infrastructure and the function of BPP KOSTRATANI as an information data center. The availability of facilities and infrastructure was found to be in the good to excellent category, with each percentage being 39.06 percent. These findings suggest the importance of supporting the BPP's facilities and infrastructure to maintain its role as a data and information center for agricultural extension activities.

INTRODUCTION

The KOSTRATANI program, also known as *Komando Strategis Pembangunan Pertanian*, is a government initiative implemented by the Ministry of Agriculture in Indonesia. The program aims to drive improvements in the agricultural sector through the use of information technology (Kementerian Pertanian, 2019). The program's establishment is expected to aid in achieving the national food sovereignty objective set forth by the Ministry of Agriculture in 2019. With the ultimate goal of providing food for a population of 270 million people,

KOSTRATANI seeks to boost agricultural exports by enhancing productivity, quality, and sustainability of agricultural commodities, thereby advancing the goals of agricultural development and increasing the welfare of farmers. The implementation of KOSTRATANI activities is currently underway in Lampung Province, which is comprised of 13 regencies and 2 municipalities. However, only 3 regencies in Lampung Province are members of the KOSTRATANI program, namely Central Lampung, East Lampung, and South Lampung. Out of the 17 Balai Penyuluhan Pertanian (BPP) in South Lampung, only 5 BPPs, including the Sidomulyo BPP and Candipuro BPP, are members of KOSTRATANI.

The *Balai Penyuluhan Pertanian* (BPP) plays a crucial role in carrying out extension activities and can significantly contribute to the success and sustainable development of agriculture at the district level. By being included in the *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) program and utilizing information technology, the roles, functions, and duties of BPP can be maximized. Therefore, the importance of BPP is heightened, and it must be supported with adequate facilities and infrastructure. As time progresses, information technology has become increasingly attractive in meeting the needs of various aspects, including the government. BPP KOSTRATANI has five functions, including serving as a learning center for extension workers and farmers, a center for agricultural development movements, an agribusiness consulting center, a center for developing partnership networks, and an information data center.

The role of *Balai Penyuluhan Pertanian* (BPP) as a data and information center positions the institution as a crucial entity for collecting, accommodating, processing, and presenting data related to agriculture. This means that all data and information related to agricultural activities within the jurisdiction of BPP (which may span one or more districts) must be collected by the BPP. Arikunto (2013) defines data as the result of recording facts or figures, while the KBBI (2021) defines data as true and real information that can be used as the basis for study, analysis, or conclusion. Therefore, the BPP's role as a data and information center highlights its importance in the agricultural sector, as it provides valuable information that can guide policy-making and development initiatives.

The *Balai Penyuluhan Pertanian* (BPP) plays a crucial role as a data and information center, which could significantly aid extension activities by providing extension agents with essential data for informed decision-making. Data collected by BPP can be utilized in various aspects, such as planning, decision-making, and activity evaluation. However, several obstacles hinder the role of BPP as a data center, including challenges related to data collection, verification, and validation. These challenges can negatively impact the accuracy and reliability of the data presented. As Coronel et al. (2017) suggests, information is the processed outcome of raw data that provides meaningful results. Therefore, it is imperative to address the challenges faced by BPP to ensure its effective functioning as a reliable data and information center.

The provision of adequate facilities and infrastructure at the *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) Balai Penyuluhan Pertanian (BPP) is a critical requirement to support the availability of data and information. Insufficient facilities and infrastructure pose a significant obstacle to the functioning of BPP KOSTRATANI as a reliable data and information center. According to KBBI (2021), information refers to the collection of data that is processed to provide informative insights. Facilities and infrastructure refer to tools and equipment necessary to achieve a particular activity, including the physical space required for the activity. Procurement of facilities and infrastructure can be achieved by purchasing, self-manufacturing, or receiving assistance from external sources, such as government aid. The use of facilities and infrastructure must consider various factors, such as the desired goals, user characteristics, and the availability of data and information required for agricultural development. Therefore, the provision of adequate facilities and infrastructure is crucial for the efficient functioning of BPP KOSTRATANI as a reliable data and information center for agriculture.

This study focuses on various types of data and information that are reported to the Ministry of Agriculture, including agricultural human resource data, agricultural technical data, agricultural environmental data, and administrative data. These reports are uploaded through applications and information systems, such as *Sistem Informasi Manajemen Penyuluhan Pertanian* (SIMLUHTAN), e-RDKK, and Cyber Extension, which can be accessed online via the Ministry's website: http://laporanutama.pertanian.go.id/. Information technology plays a crucial role in enabling faster and more accurate work processes, thereby enhancing efficiency and reducing time and effort. However, the role of Balai Penyuluhan Pertanian (BPP) as a data and information center for KOSTRATANI requires adequate facilities and infrastructure, which are currently insufficient due to several limitations such as internet access, electricity, IT equipment, and BPP security. This study aims to investigate the relationship between facilities and infrastructure and the function of BPP KOSTRATANI as a data and information center. Furthermore, the study will examine the perceptions of extension workers towards innovation in Cyber Extension.

METHOD

The present study employed a census method with a quantitative descriptive approach and applied the Spearman rank statistical test. The census method is a technique for selecting a sample in which all members of the population are included. This is typically used for small populations of less than 30 or when the research aims to generalize with minimal error (Sugiyono, 2017). This study was conducted in November 2021 and included 16 extension workers who were all *Penyuluh Pertanian Lapang* (PPL) at the *Balai Penyuluhan Pertanian* (BPP) located in Sidomulyo District and Candipuro District, South Lampung Regency. The selection of these locations was purposively and based on the fact that BPP Sidomulyo and Candipuro were pilot BPPs and members of *Komando Strategis Pembangunan Pertanian* (KOSTRATANI). Additionally, their strategic location close to agricultural sites made them easily accessible to farmers. Both primary and secondary data were collected in this study. Data were collected using direct observation, interviews through a questionnaire, and literature review. Direct observation was conducted at both BPPs to assess the use of facilities and infrastructure in providing data and information. Questionnaires were used to collect relevant information for this research, and literature review was conducted to support and strengthen the primary data.

The present study employed a descriptive analysis method to provide a detailed tabulation of respondents' answers and to present them in a clear and concise manner. Specifically, this method was necessary to describe the characteristics of the respondents, namely *Balai Penyuluhan Pertanian* (BPP) Sidomulyo and Candipuro extension workers. Furthermore, the study utilized inferential analysis by testing hypotheses using nonparametric statistics, namely the Spearman Rank correlation test (Siegel, 1997). The research strategy employed was comparative-associative, which involved describing and testing the correlation comparison hypothesis between two or more variables (Sugiyono, 2018). Data were processed using the Statistical Package for the Social Sciences 26 (SPSS 26). A visual representation of the research framework can be found in Figure 1.

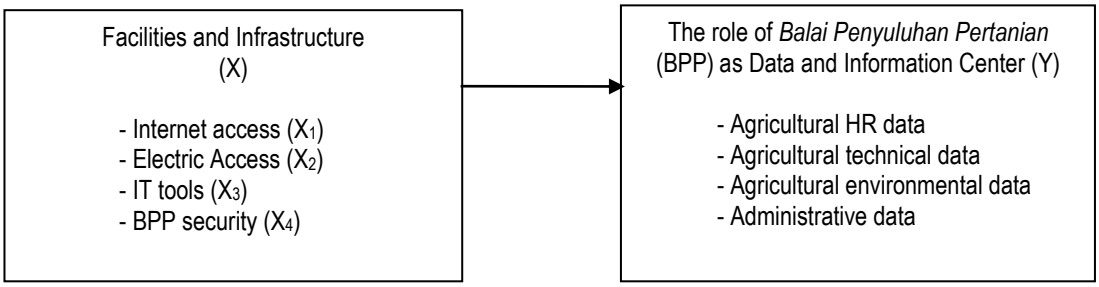

Figure 1. Framework

The objective of the simple correlation parameter test is to establish the relationship between each independent variable (X indicators), comprising internet access, electricity access, IT equipment, and Balai Penyuluhan Pertanian (BPP) security, and the dependent variable indicator (Y variable), namely the availability of agricultural human resource data, agricultural technical data, agricultural environmental data, and administrative data. This test is conducted using the following formula:

$$\mathbf{r_s = 1 - \frac{6 \sum_{t-1}^{n} di^2}{n^3}}$$

Information :
rs = Estimator of the correlation coefficient
di = Difference of each rank pair
n = Number of respondents

The decision-making rules are as follows:
1) If P ≤ α, then the hypothesis is accepted. At (α) = 0.05 or (α) = 0.01 means there is a significant relationship between the two variables tested.
2) If P > α, then the hypothesis is rejected. At (α) = 0.05 or (α) = 0.01 means that there is no significant relationship between the two variables tested.

RESULTS AND DISCUSSION

Respondent Identity

Respondent Age

The study investigated the age profile of agricultural extension workers at Balai Penyuluhan Pertanian (BPP) in Sidomulyo and Candipuro Districts. The sample consisted of 16 respondents aged between 23-57 years old. The age groups were classified into three categories based on economic productivity, where the unproductive age group consists of 0-14 years, the productive age group includes 15-64 years, and the last group includes individuals aged 65 years or more, who are considered unproductive (Mantra, 2004). The results indicated that the average age of the respondents falls within the productive age group. Previous research has established a direct relationship between age and work productivity, with age categorized into productive and unproductive groups, and associated with a person's behavior and habits (Aprilyanti, 2017; Listiana I, 2018). In this regard, the age range of the respondents, which falls within the productive age group, suggests that they possess the physical and mental capabilities required to keep pace with the demands of their job in the face of advancing technology. Age is a crucial factor that influences the success of a business, with older workers experiencing weakened physical strength and productivity levels compared to their younger counterparts (Assafriani, 2020; Selvia, 2017). It is worth noting that different occupations have varying age limits for optimal productivity. For example, physical labor jobs tend to have a productive age limit of up to 55 years, while teachers, extension workers, and office personnel can be considered productive up to 60 years of age (Rusman, 2011). Above 60 years of age, individuals tend to experience a decline in physical and mental capabilities and may be considered part of the pre-retirement group (Septiani, 2017). However, older workers can compensate for physical limitations with experience, which could potentially enhance their productivity. The study highlights the importance of productive age in the agricultural extension sector, where young extension officers possess strong physical strength and good learning abilities, and experienced officers can leverage their knowledge to help farmers run their businesses properly and promote agricultural development in Indonesia.

Respondents Education Level

The present study investigates the education level of agricultural extension workers in Sidomulyo and Candipuro Districts, with the aim of assessing its impact on the provision of data and information to farmers. The data were collected through a survey of extension workers, which revealed that the majority of respondents held a bachelor's degree (S1), followed by a diploma (D3) and a master's degree (S2). The high level of education of the respondents is expected to facilitate the use of facilities and infrastructure to support the completeness of data and information at Balai Penyuluhan Pertanian (BPP). As education is known to be a key factor in influencing individuals, groups, or masses, the education level of extension workers is expected to impact their performance in delivering agricultural extension services. Previous research has indicated that the level of education and work experience have a positive and significant effect on employee performance. Thus, the education level of agricultural extension agents is one of the factors that can enhance their capacity to receive information from various sources, which in turn can provide added value to their work. Specifically, the undergraduate education level is deemed appropriate to provide effective counseling to farmers and to promote their uptake of new agricultural technologies. Consequently, it is recommended that agricultural extension workers pursue higher education and training to enhance their performance and contribute to the development of a sustainable agricultural sector.

Table 1. Level of Education for Agricultural Extension Workers in South Lampung Regency

Level of Agricultural Extension Education	Classification	Respondents (People)	Percentage (%)
S2	Very high	1	6,25
S1	High	10	62,5
D3	Low	3	18,75
High School/Vocational School	Very low	2	12,5
Sum		**16**	**100**

Respondent's Working Time

This study examines the relationship between work experience and performance of agricultural extension workers in Balai Penyuluhan Pertanian (BPP) in Sidomulyo and Candipuro Districts. The duration of extension work varies widely, ranging from 2-36 years, with the average length of work of BPP Sidomulyo and Candipuro extension workers being quite long (Table 2). Workers with longer periods of work tend to have more experience related to collecting data and information until it is presented in the form of a report using the facilities and infrastructure in BPP to help the function of BPP Komando Strategis Pembangunan Pertanian (KOSTRATANI) as a data and information center. The aim of this study is to investigate the impact of work experience on the performance of agricultural extension workers. The study draws on the research of Listiana et al. (2018), who found that the duration of extension work can be used as a lesson to carry out their duties properly because something that has been experienced by a person will shape and influence appreciation of the social environment and work environment. Alwi (2001) suggested that the longer the work experience possessed by employees, the higher the work results that will be achieved. In addition, Septiani (2017) found that the working period is related to the time of starting work, and the longer the working period, the better the proficiency will be. Similarly, Sartika (2015) found that work experience has a significant influence on employee performance, which is in line with Indrawan's research (2017) which suggests that work experience has a partial effect on work performance. Sinaga's research (2020) also supports this finding, stating that work experience partially has a significant effect on employee work productivity. The present study contributes to the literature by highlighting the importance of work experience for improving the performance of agricultural extension workers. The study shows that work experience that matches the job position is needed and has an influence on their performance, which can help complete the work appropriately and well. Work experience can help in improving the performance of agricultural extension workers, either in collecting data and information or teaching farmers to be more proficient in the use of technology. In the conditions of the Covid-19 pandemic, many activities are hampered, for this reason, so that everything continues to run smoothly, other ways are used such as communication via telephone, WhatsApp, Zoom Meeting and so on. However, utilizing this knowledge and experience in various conditions that occur presents a challenge that can be overcome through the honing and addition of extension experience (Yektiningsih, 2018). Overall, the findings of this study suggest that work experience is a crucial factor for improving the performance of agricultural extension workers. The study recommends that BPP should focus on developing and nurturing the work experience of its extension workers to ensure that they are equipped to handle the challenges of their jobs effectively.

Table 2. The duration of extension work of Agricultural Extension Officer in South Lampung Regency

Length of Work on Agricultural Extension (Year)	Classification	Respondents (People)	Percentage (%)
2-10,75	Very long	2	12,5
10,76-19,5	Quite long	11	68,75
19,51-28,25	Short	1	6,25
28,26-37	Very short	2	12,5
Sum		**16**	**100**

Relationship between the facilities and infrastructure of the BPP KOSTRATANI and its function as a data and information center

The *Balai Penyuluhan Pertanian* (BPP) serves as an extension worker's office and is one of the forums that facilitates their work. This work is closely linked to achieving predetermined goals. Office facilities are a vital prerequisite for the success of an agency or institution, enabling employees to execute their duties effectively (Muslimah et al, 2019). Irawan and Suryani (2018) argue that an agency must prioritize employee performance concerns. The quality of an agency's output in facing competition is determined by the performance of its employees. One approach to addressing this challenge is to improve employee performance, which will reflect positively on the performance of the office (Harahap, 2019). Several factors, including office facilities, colleagues, leadership, and office environment (i.e., office layout), have an impact on employee performance (Mustikaningtyas et al., 2017).

The *Balai Penyuluhan Pertanian* (BPP) Sidomulyo and BPP Candipuro serve as pilot of BPPs within the *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) membership, expected to offer optimal support for agricultural activities at the district level. A robust extension institution with adequate support, supervision,

and collaboration among the government, private sector, and community can ensure successful implementation of agricultural development programs. Sustained efforts to develop the function and role of agricultural institutions, specifically BPP, as a forum for government support towards farmers' welfare can generate a pull effect that advances agricultural development (Elizabeth, 2019). Building a strong institutional network that utilizes agricultural resources and technology is a crucial factor for supporting agricultural development (Elizabeth, 2017). Empowering and developing these institutions, in line with development policy programs, can ensure the success of KOSTRATANI programs with the support of suitable facilities and infrastructure for optimal performance.

The success of the *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) program relies on the availability of facilities and infrastructure, which are primarily provided through government assistance. Pakpahan (2021) highlights the form of government aid to *Balai Penyuluhan Pertanian* (BPP) and farmers, which includes information and communication technology such as computers/laptops, WiFi or internet networks, motorized vehicles, and other facilities. These resources facilitate the extension workers' access to agricultural information, including market information, good farm business management, partner networks, and counseling services for farmers. By providing these facilities and infrastructure, extension workers can inform farmers about the KOSTRATANI program, its purpose, and functions.

The provision of adequate facilities and infrastructure is crucial in enhancing the capacity and performance of agricultural extension workers, particularly in providing data and information. Facilities and infrastructure play a crucial role in supporting the success of extension activities, as revealed in Basalamah et al.'s (2019) research, which found that facilities and infrastructure significantly impact employees' performance. The availability of appropriate facilities and infrastructure is one of the factors related to improving the performance of extension workers, as it facilitates their duties. Amaliah (2019) supports this notion, stating that facilities and infrastructure are interrelated with office staff and support office activities. Facilities are the tools utilized by office staff to accomplish work, while infrastructure is a supporting tool and guideline for office staff in using facilities. Consequently, office staff can work optimally if they have adequate support in the form of facilities and infrastructure.

In this study, facilities and infrastructure were examined as potential factors associated with the role of the *Balai Penyuluhan Pertanian* (BPP) *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) as a center for data and information. The indicators used to assess the availability of facilities and infrastructure included internet access, electricity access, IT devices, and BPP security, which were rated on a scale of 1 to 4, ranging from very poor to excellent. Additionally, the study explored the perception of extension workers towards the Cyber Extension innovation.

Internet Access

The *Balai Penyuluhan Pertanian* (BPP) plays a crucial role as a data and information center, necessitating adequate facilities and infrastructure to support the performance of extension workers in providing data and information. Internet access is an essential part of these facilities and infrastructure, as almost all data and information provision requires it. According to Saraswati et al. (2019), the availability of facilities and infrastructure has a significant impact on the effectiveness of employee work. In this study, the assessment of the BPP *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) function as a data and information center was measured using scores classified from excellent to very poor. The assessment of internet access indicators is suspected to be related to the function of BPP. The results of the assessment of BPP Sidomulyo and Candipuro show a percentage of 43.75% for excellent internet access. However, the interview results reveal that both BPPs still use internet access through private cellular networks, and it is necessary to plan for future improvements, such as the implementation of WiFi. To ensure convenience and mutual progress, employees should participate in the selection of goods as they are joint tools (Amaliah, 2019).

Table 3. Access to Internet at BPP Sidomulyo and Candipuro

Internet access	Classification	Respondents (People)	Percentage (%)
14-16	Excellent	7	43,75
11-13	good	7	43,75
8-10	Bad	1	6,25
4-7	Very poor	1	6,25
Sum		**16**	**100**

Electricity Access

The *Balai Penyuluhan Pertanian* (BPP) serves as a data and information center and requires adequate facilities and infrastructure, including access to electricity to operate IT devices. These devices, such as computers, printers, and Liquid Crystal Displays (LCD), are essential in supporting the function of BPP. Therefore, access to electricity is an important aspect of facilities and infrastructure that should be available at BPP. The assessment of facilities and infrastructure, including electricity access indicators, is crucial in evaluating the performance of BPP as a data and information center. This study measured these indicators using scores that provided a classification from excellent to very poor. The results of respondents' assessments related to electricity access at BPP Sidomulyo and Candipuro were excellent, with a percentage of 68.75 percent, as indicated in Table 4.

Table 4. Access to electricity at BPP Sidomulyo and Candipuro

Access to electricity	Classification	Respondents (People)	Percentage (%)
14-16	Excellent	11	68,75
11-13	good	3	18,75
8-10	Bad	2	12,5
4-7	Very Poor	0	0
Sum		**16**	**100**

IT Devices

The *Balai Penyuluhan Pertanian* (BPP) as a data and information center requires adequate facilities and infrastructure to support the smooth functioning of extension workers in providing data and information. The provision of IT tools and the presence of IT personnel or experts are essential in the effective operation and dissemination of data and information. This study evaluates the role of IT devices as part of the facilities and infrastructure at BPP *Komando Strategis Pembangunan Pertanian* (KOSTRATANI), measured by scores ranging from excellent to very poor. The respondents' assessments related to IT devices at BPP Sidomulyo and Candipuro indicate a good score of 43.75 percent, as shown in Table 5. However, it is crucial to balance this with the competence of human resources. Rapid technological advancements require employees to work quickly, necessitating both adequate facilities and skilled human resources. Employees within the office must possess digital skills that enable them to operate increasingly sophisticated office machines. By doing so, the infrastructure and equipment will be maintained. Amaliah's research (2019) supports this view.

Table 5. Povision of IT devices at BPP Sidomulyo and Candipuro

IT Devices	Classification	Respondents (People)	Percentage (%)
16,26-20	Excellent	7	43,75
12,6-16,25	Good	7	43,75
8,76-12,5	Bad	1	6,25
5-8,75	Very Poor	1	6,25
Sum		**16**	**100**

Balai Penyuluhan Pertanian (BPP) Security

Ensuring the security of data and IT devices at the *Balai Penyuluhan Pertanian* (BPP) is essential given the presence of facilities and infrastructure. In addition to equipment and materials, the security of the BPP location itself is crucial to safeguard against loss or theft of goods or data. This study measured the security of BPP facilities and infrastructure, specifically its relation to the function of BPP *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) as a data and information center, using a score-based classification system ranging from excellent to very poor. Results from questionnaires and on-site observations of BPP locations in Sidomulyo and Candipuro showed that BPP security was categorized as not doing well, with 50% of respondents reporting inadequate security measures in both locations, as presented in Table 6. Despite the presence of guards living in the BPP environment, iron doors to secure the room where IT devices are stored have not been installed. According to Susanto (2017), security in a place or room can be compromised if left unattended, thus rendering intensive security measures futile. Therefore, ensuring the security of BPP facilities and infrastructure must remain a priority to safeguard its critical data and IT devices.

Table 6. Provision of Security at BPP Sidomulyo and Candipuro

BPP Security	Classification	Respondents (People)	Percentage (%)
13-15	Excellent	0	0
10-12	Good	8	50
7-9	Bad	8	50
3-6	Very Poor	0	0
Sum		**16**	**100**

The relationship between extension workers' perceptions and the nature of Cyber Extension innovation, with a focus on the role of BPP KOSTRATANI as a data and information center

The concept of Cyber extension refers to the use of information and communication technologies (ICTs) in agricultural extension systems to deliver real-time and relevant agricultural information to farmers and farmer groups. Sharma (2005) argues that this can be an effective tool for agricultural innovation. The study aimed to investigate the perception of extension workers towards Cyber extension. Perception, according to Zulfikar et al. (2018), is the cognitive process that a person goes through when trying to understand information about the environment. The findings of interviews conducted with extension workers at *Balai Penyuluhan Pertanian* (BPP) Sidomulyo and Candipuro revealed that the perception of extension workers towards Cyber extension has not been positive due to several factors, including the lack of mastery of information technology, difficulty in keeping up with technological developments, and lack of training. These findings are consistent with Taragola's (2005) argument that several factors limit the use of ICTs, such as lack of ability to use the technology, lack of awareness of its benefits, difficulty in using the technology, lack of technological infrastructure, high cost of technology, low level of trust in the system, lack of application training, system integration, and low software availability. The limitation of human resources in the field of counseling is also a major obstacle in facing the challenges of current counseling, both in quantity and quality (Sumardjo, 2008). Although extension workers are expected to adapt and improve their performance by keeping up with technological advancements, the reality on the ground indicates that professional personnel are insufficient. Agricultural extension plays a crucial role in agricultural development as it can improve the welfare of farmers by increasing productivity and income (Rangga et al., 2020).

Hypothesis Testing

The present study aims to investigate the potential relationship between the availability of facilities and infrastructure and the perception of extension workers towards Cyber Extension innovation in the role of *Balai Penyuluhan Pertanian* (BPP) *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) as a data and information center. The research hypothesis was evaluated using non-parametric statistical analysis, specifically the Spearman Rank correlation test, conducted with the Statistical Package for the Social Sciences 26 (SPSS 26). The current analysis aims to examine the association between variable X (facilities and infrastructure) and variable Y (the function of BPP KOSTRATANI as a data and information center), as presented in Table 7.

Table 7. *Spearman Rank* correlation analysis between variable X and variable Y

Variable X	Variable Y	Coefficient Correlation (rs)	Sig (2-tailed)	α	Decision
Facilities and Infrastructure	The function of BPP KOSTRATANI as a data and information center	0.516*	0.041	0.05	H1 accepted

The study conducted aimed to examine the relationship between the availability of facilities and infrastructure and the function of *Balai Penyuluhan Pertanian* (BPP) *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) as a data and information center, with a hypothesis tested using the Spearman Rank correlation test and Statistical Package for the Social Sciences 26 (SPSS 26). The analysis revealed a significant positive relationship between variable X (facilities and infrastructure) and variable Y (the function of BPP KOSTRATANI as a data and information center), with a Spearman Rank correlation coefficient (rs) of 0.516 and a significance value of 0.041 less than α (0.05), which supported the acceptance of H1. The findings are consistent with previous studies by Fauziana (2017) and Setiawan (2020), which indicated that facilities and

infrastructure have a positive and significant impact on employee performance, specifically in providing data and information, similar to the role of extension workers in the present study.

The correlation between the availability of facilities and infrastructure for the function of *Balai Penyuluhan Pertanian* (BPP) *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) as a data and information center is strong and positively related. The positive direction of this relationship indicates that the greater the availability of facilities and infrastructure, the more agricultural data and information can be accessed, including data on agricultural human resources, technical information, environmental data, and administrative data. However, optimizing the availability of facilities and infrastructure should be based on their specific functions and needs. It is hoped that the availability of adequate facilities and infrastructure can enhance the ability of extension workers to help the function of BPP KOSTRATANI as a data and information center. Nevertheless, the relationship between facilities, infrastructure, and human resources must support each other. For example, well-maintained facilities and infrastructure require human resources who follow operational standards when using office machines to ensure that they are well-maintained and used for a long time to minimize waste (Amaliah, 2019).

The availability of adequate facilities and infrastructure is considered one of the significant factors that can enhance the performance of agricultural extension workers. This is because good facilities and infrastructure can facilitate extension workers in assisting farmers to resolve existing problems (Ministry of Agriculture, 2009). In line with this, Anggoroseto (2012) conducted a study entitled "Factors Affecting the Performance of Extension Workers in the Use of Cyber Extension in Bogor Regency" which showed that the availability of extension facilities and pre-facilities is a vital variable or factor related to the performance level of agricultural extension workers. Chasanah and Rustiana (2017) also supported this finding by stating that work facilities, including facilities and infrastructure, have a significant influence on employee performance in District Offices throughout Batang Regency.

As a data and information center, *Balai Penyuluhan Pertanian* (BPP) has the important role of identifying and validating data and information required by main and business actors, which is then accurately distributed through information technology to various levels, including the regency/city, province, and central level. Furthermore, BPP must also ensure the provision and distribution of data and information necessary for the main actors and business actors through the use of information technology, reaching the correct destinations at the regency/city, province, and central level.

Agricultural extension workers heavily rely on facilities and infrastructure in the Balai Penyuluhan Pertanian (BPP) for efficient job execution. Inadequate facilities and infrastructure can significantly affect the performance of the workers (Bohari et al., 2019). The quality of work facilities and infrastructure can influence the performance of employees positively or negatively. Based on interviews with agricultural extension workers in Sidomulyo and Candipuro Districts, it was found that the internet access in the two BPPs still relies on private cellular networks, as WiFi has not been installed yet. Additionally, BPP security remains a challenge since it is located far from residential areas in the Sidomulyo BPP, forcing workers to take IT devices, such as laptops, computers, Liquid Crystal Displays (LCD), and cameras, home to protect them from theft. Besides, HR's ability to operate IT equipment is also a significant obstacle in providing data and information.

CONCLUSION

The present study aims to examine the relationship between the availability of facilities and infrastructure at *Balai Penyuluhan Pertanian* (BPP) Sidomulyo and Candipuro, and the functioning of the BPP *Komando Strategis Pembangunan Pertanian* (KOSTRATANI) as a data and information center. The study finds that the availability of facilities and infrastructure is in the good-very good category (39.06 percent each) and positively correlated with the availability of agricultural human resources data, agricultural technical data, agricultural environmental data, and administrative data. However, maintenance of facilities and infrastructure is crucial to prevent damage and ensure optimal performance. The study recommends that agricultural extension workers improve their mastery of technology and keep up with technological developments to enhance reporting and data provision online. The findings are consistent with previous research by Anggoroseto, which highlights the significance of cyber extensions as a medium for extension socialization and communication between extension agents and district administrators.

ACKNOWLEDGMENT

The author expresses gratitude to individuals and institutions that have contributed to the research, including the BPP Coordinator, lecturers, friends, and family who have provided support in the form of financial assistance, research permit, consultation, and assistance in data collection.

REFERENCES

Kamus Besar Bahasa Indonesia. (Online). Tersedia di al.kemdikbud.go.id/entri/religius. Diakses 28 Oktober 2021.

Alwi, dan Syafaruddin. 2001. *Manajemen Sumber Daya Manusia Strategi Keunggulan*. Kompetitif: BPFE. Yogyakarta.

Amaliah, H.N. 2019. Sarana Prasarana Kantor sebagai Penunjang Produktivitas Kantor yang Efektif dan Efisien. *Jurnal Manajemen Kantor*. 1-14.

Anggoroseto, P. 2012. Faktor-Faktor yang mempengaruhi Kinerja Penyuluh dalam Pemanfaatan *Cyber Extension* di Kabupaten Bogor. *Tesis*. Universitas Negeri Surakarta. Solo.

Arikunto, S. 2013. *Prosedur Penelitian: Suatu Pendekatan Praktik.* Rineka Cipta. Jakarta.

Aprilyanti. 2017. Pengaruh Usia dan Masa Kerja Terhadap Produktivitas Kerja. Jurnal Sistem dan Manajemen Industri Vol 1(2).

Assafriani, dan M. Fitri. 2020. Pengaruh Jumlah Zakat Produktif, Umur Produktif, Jumlah Tanggungan, dan Pengawasan terhadap Produktivitas Usaha (Survey pada Mustahik Kabupaten Pidie). *Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi (JIMEKA)*. Vol 5(2): 288-296.

Basalamah, J., dan A. Pramukti, A. 2019. Kemampuan, Komitmen dan Sarana Prasarana terhadap Kinerja Pegawai Rumah Sakit. *Center of Economic Student Journal*. Vol 2(2), 154–164.

Bohari, Ansar, dan M. Tamrin. 2019. Pengaruh Kompensasi, Sarana Prasarana melalui Motivasi Kerja terhadap Kinerja Petugas Kebersihan pada Dinas Lingkungan Hidup dan Kehutanan Kabupaten Bulukumba. *YUME: Journal of Management*. Vol 2(3).

Chasanah, I., dan A. Rustiana. 2017. Pengaruh Kemampuan Kerja, Fasilitas Kerja, dan Prinsip Prosedur Kerja terhadap Kinerja Pegawai di Kantor Kecamatan se-Kabupaten Batang. *Economic Education Analysis Journa.* Vol 6(2): 433–446.

Coronel, C., dan M. Steven. 2017. *Database Systems: Design, Implementation, and Management. Twelve Edition*. Cengage Learning. Boston.

Elizabeth, R. 2017. Revitalisasi Industri Produk Olahan dan Pemberdayaan Lembaga Kemitraan Mendukung Peningkatan Pemasaran, Daya Saing, dan Pensejahteraan Petani Pisang. *Journal of Agricultural Scienties*. Vol 2(1).

Elizabeth, R. 2019. Revitalisasi Implementasi Pemberdayaan Kelembagaan Pertanian Berkesinambungan Mendukung Pencapaian Daya Saing Produk Olahan. *Journal of Scientch Research*. Vol 4(1).

Fauziana, D. 2017. Pengaruh Sarana dan Prasarana Sekolah dan Lingkungan Kerja terhadap Kinerja Guru di Pondok Pesantren Al-Islam Joresan Mlarak Ponorogo. *Tesis*. Program Pascasarjana Insittute Agama Islam Negeri (IAIN) Ponorogo. Jawa Timur.

Harahap, S.S. 2019. Hubungan Usia, Tingkat Pendidikan, Kemampuan Bekerja dan Masa Bekerja Terhadap Kinerja Pegawai dengan Menggunakan Metode Pearson Correlation. *Jurnal Teknovasi*. Vol 6(2): 12-26.

Indrawan, M.I. 2017. Pengaruh Etika Kerja, Pengalaman Kerja dan Budaya Kerja terhadap Prestasi Kerja Pegawai Kecamatan Binjai Selatan. *Jurnal Ilmiah Abdi Ilmu*. Vol 10(2).

Irawan, A., dan N. Suryani. 2018. Pengaruh Gaya Kepemimpinan, Fasilitas Kantor, dan Disiplin Kerja terhadap Kinerja Pegawai Dinas Perdagangan Kota Semarang. *Economic Education Analysis Journal*. 7(1): 265–278.

Kementerian Pertanian. 2019. *Pedoman Operasional Komando Strategis Pembangunan Pertanian Tingkat Kecamatan*. Kementan RI. Jakarta.

Mantra, I. 2004. *Filsafat Penelitian & Metode Penlitian Sosial*. Pustaka Belajar. Yogyakarta.

Muslimah, J., dan W. Rahmaningtyas. 2019. Pengaruh Tata Ruang Kantor, Penataan Arsip, Fasilitas Kantor, dan Kompetensi Pegawai Terhadap Peningkatan Kualitas Pelayanan Ketatausahaan. *Economic Education Analysis Journa*l. Vol 8(3): 912–924.

Mustikaningtyas, I., H. Sawiji, dan A.N. Rahmanto. 2017. Pengaruh Tata Ruang Kantor dan Kepemimpinan Kepala Sekolah Terhadap Kinerja Pegawai Kantor Tata Usaha SMK Negeri Se-Kabupaten Boyolali. *Jurnal Informasi dan Komunikasi Administrasi Perkantoran*. Vol 1(1): 125–136.

Listiana, I. 2018. Pengaruh Pemanfaatan Teknologi Informasi Terhadap Kapasitas Penyuluh di Provinsi Lampung. *Disertasi*. Institut Pertanian Bogor. Bogor.

Listiana, I., Sumardjo, Sadono, D., dan Tjiptopranoto, P. 2018. Hubungan Kapasitas Penyuluh dengan Kepuasan Petani dalam Kegiatan Penyuluhan. *Jurnal Penyuluhan*. 14 (2):244-256.

Pakpahan, T.E., M. Wicaksono., dan Q. Handari. 2021. Balai Peran Penyuluh Pertanian sebagai Pusat Data Informasi Pertanian dalam Mendukung Program Kostratani. *Jurnal Agribisnis Terpadu*. Vol 14 (1): 45-67.

Rangga, K.K., Mutolib, A., Yanfika, H., Listiana, I., dan Nurmayasari, I. 2020. Tingkat Efektivitas Penyuluhan Pertanian di Kecamatan Jati Agung Kabupaten Lampung Selatan. *Jurnal Agribisnis Terpadu*. 13(1): 1-16.

Rusman, dkk. 2011. *Pembelajaran Berbasis Teknologi Informasi dan Komunikasi: Mengembangkan Profesionalisme Guru*. Rajawali Pers. PT. Raja Grafindo Persada. Jakarta.

Saraswati, A., L. Budi., dan M.M. Minarsih. 2021. Pengaruh Kompensasi, Komunikasi, dan Sarana Prasarana terhadap Efektivitas Kerja Pegawai. *Journal of Management*. Vol 7(1).

Sartika, dan Amwiarni. 2015. Pengaruh Kompetensi, Disiplin Kerja, dan pengalaman Kerja terhadap Kinerja Pegawai Dinas pendapatan, Pengelolahan keuangan dan Aset daerah Kota Palu. *Jurnal Kotalogis*. Vol 3(1): 54- 65.

Septiani, N. 2017. Beberapa Faktor yang Berhubungan dengan Perilaku Pekerja dalam Penerapan Safe behavior di PT. Hanil Jaya Steel. *The Indonesian Journal of Occupational Safety and Health*. Vol 6(2): 257-267.

Selvia. A. 2017. Pengaruh Usia dan Masa Kerja Terhadap Produktivitas Kerja (Studi Kasus: PT. OASIS Water International Cabang Palembang). *Jurnal Sistem dan Manajemen Industri*. Vol 1(2): 68-72.

Setiawan, M. 2020. Pengaruh Kompetensi, Komunikasi, Sarana Prasarana dan Pelatihan terhadap Efektivitas Kerja Pegawai di Kantor Wilayah DJP Sumatera Utara I. Jurnal Ekonomi, Keuangan, dan Kebijakan Publik (JEKKP). Vol 2(1).

Sharma, V.P. 2005. Cyber Extension: Leveraging the Inforevolution to Improve Rural Livelihoods Case Studies in Agricultural Extension. Available, www.conflux.csdms.in.

Siegel, S. 1997. *Statistik Non-Parametrik Untuk Ilmu-Ilmu Sosial*. Gramedia. Jakarta.

Sinaga**,** S. 2020. Pengaruh Motivasi dan Pengalaman Kerja terhadap Produktivitas Kerja Karyawan Pada PT. Trikarya Cemerlang Medan. *Jurnal Ilmiah METADATA*. Vol 2(2).

Sugiyono. 2017. *Memahami Penelitian Kuantitatif*. Alfabeta. Bandung.

Sugiyono, 2018. *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta. Bandung.

Sumardjo. 2008. *Penyuluhan Pembangunan Pilar: Pilar Pendukung Kemajuan dan Kemandirian Masyarakat dalam Pemberdayaan Manusia Pembangunan yang Bermartabat*. Dalam Adjat Sudradjat dan Ida Yustina (Penyunting). Sydex Plus. Bogor.

Susanto, F., M.N. Rifai., A. Fanisa. 2017. Internet of Things Pada Sistem Keamanan Ruangan, Studi Kasus Ruang Server Perguruan Tinggi Raharja. *Open Journal System*. Vol 5(1).

Taragola N dan Gelb E. 2005. Information and Communication Technology (ITC) Adoption in Horticulture: A Comparison to EFITA Baseline.http://departments.agri.huji.ac.il/ economics/gelb-hort-14.pdf.

Yektingsih, E. 2018. Analisis Indeks Pembangunan Manusia (Ipm) Kabupaten Pacitan Tahun 2018. *Jurnal Ilmiah Sosio Agribis*. Vol 18 (2):2614-4549.

Zulfikar, S. Amanah, dan P.S. Asngari. 2018. Persepsi Petani terhadap Kompetensi Penyuluh Pertanian Tanaman Pangan di Kabupaten Aceh Utara. *Jurnal Penyuluhan*. Vol 14(1).