

## Agricultural extension in the context of the Covid-19 pandemic: Issues and challenges in the field

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### ABSTRACT

The extension is an active procedure requiring contact between the extension worker and the individual to establish a behavior change process. This study examines the revival of the notion of extension, the difficulty of extension in the period of the COVID-19 epidemic, and the problems of extension in the future. The revitalization of the meaning of extension includes: (1) extension is not just conveying information messages to the target (farmers) but is an activity of delivering messages until there is a behavior change (knowledge, attitudes, and skills) of message recipients/target communities; (2) extension is not just a transfer of technology, but it is a process of activities carried out between extension workers and target communities to solve problems faced by farmers; (3) extension is not just an activity that is partial and sporadic in the short term but is carried out as a whole with very long and continuous stages; (4) extension is not based on the mere interest of the extension worker but is based on the needs of the target community. Furthermore, the challenges of extension in the age of the COVID-19 epidemic are: (1) the low level of cosmopolitan farmers makes the information collected delayed; (2) farmers with all their constraints find it challenging to adjust to changes; and (3) the radius of confidence of farmers is minimal. Thus, the challenges of extension in the future are: (1) how to generate an entrepreneurial spirit for farmers; (2) the introduction of social media and web applications is mandatory as new media that extension workers should use; and (3) future extension services should be able to synergize conflicts of interest between stakeholders.

**Keywords:** Covid, Counseling problems, Ecosystem, Farmers, Revitalization.

**Article type:** Research Article.

### INTRODUCTION

Agricultural extension in Indonesia dates back to the early twentieth century. Farmers need an agricultural extension to distribute knowledge in the agricultural industry (Rusliyadi *et al.* 2018). The extension is a collaborative process that needs contact between the extension worker and the trainer to develop a “behavior” change process that embodies knowledge, attitudes, and abilities (Seleiman 2020). According to Nascimento (2020), The science of behavior serves as the scientific foundation or basis for extension (behavioral science). Extension activities do not end with “dissemination of information/innovation” and “information provision” but are a continual process that requires all of one’s power and wits. Extension activities are conducted until the beneficiary, the extension’s customer demonstrates a behavior change. According to Sánchez-Reinoso (2020),

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The data facilitates and expedites agricultural tasks. Agricultural extension workers serve as change agents, encouraging and assisting farmers in implementing creative technology improvements that are more focused and advanced in growing agriculture via changes to the farmers themselves and providing a market for farmers (Assefa Woldemariam 2021; Díaz 2021). According to Blanco (2020), the Agricultural Extension's objective is to alter farmers' behaviors, so that they can engage actively in agricultural development programs, overcoming societal barriers in the process of increasing farm output. Numerous developing nations have attempted a variety of agricultural reforms with varying degrees of success. According to Oliveira (2020), delivering agricultural extension services through extension staff, farmer organizations, and interest groups may help make them more responsible to farmers and responsive to their needs and goals. According to Souza (2020), Agricultural extension plays a critical role in agricultural growth, since it provides informal education to farmers. According to Maas (2020b), modern agricultural technology is one strategy for sustainable agricultural development, because it improves the efficiency with which agricultural resources are utilized, increases productivity, increases farmer income, and strengthens farmers' competitiveness in domestic and global markets. On this basis, this study discusses the renewal of the concept of extension, the extension issue in the period of the COVID-19 epidemic, and the extension difficulties of the future. The pros and cons of the community against the health protocol rules that are applied have caused some regulations to be relaxed a little. To measure and educate public awareness in implementing health protocols, further research is needed (Cardiah *et al.* 2021; Andiyan *et al.* 2021; Rahma 2021).

### **Reviving counseling's meaning**

Counseling derives from the term "extension," which is commonly used and well understood in Indonesian. The term "extension" derives from the root word "suluh," which signifies the provider of light during darkness (Caicedo-López 2021). Extension activities are defined in various ways throughout their journey, including dissemination (information), information/explanation, non-formal education, behavior change, social engineering, technical and social innovation marketing, social change, community empowerment, and community strengthening (Moreno 2021). However, various circumstances can simplify the definition of extension, and hence the authors underline the following rejuvenation of the meaning of extension. When it comes to education, the COVID-19 epidemic has had a major effect, particularly on distance learning techniques that must be completed online (Andiyan *et al.* 2021).

To begin, counseling is not simply communicating information to the target (farmers). Counseling is the process of providing messages until a change in the recipient's or target community's behavior (knowledge, attitudes, and abilities) occurs. Additionally, extension is not a one-way communication process; it involves two-way communication and conversation. It is even feasible for extension workers to get a wealth of fresh knowledge from farmers, since they often have experience. Menurut (Orejuela 2020), communication is a critical component of agricultural extension, and extension workers employ a range of strategies to communicate with their customers about the information included in extension publications. Thus, communication is critical in counseling since it determines the extension's success or failure. The modes of communication utilized in extension are critical, because they ensure the effectiveness of predictors and efficient extension programs (Haq 2020). According to Cardoso (2020), measures of extension communication effectiveness include changes in attitudes and methods of thinking, the application of supplied information, and farmers' capacity to share knowledge in their surroundings. According to Acevedo-Osorio (2020), Farmers' attitudes are created by experience and learning processes such as classical conditioning, social learning, and direct handling. This study conducted in one construction company in Indonesia, which was facing several problems, many projects that already ended have delays (Andiyan *et al.* 2021). Second, extension is not only a method of technology transfer; it involves a series of actions conducted between extension workers and target communities to resolve farmer concerns. This indicates that extension is also a research effort on the technology used. As stated by Maas (2020a), extension is an adult education system (andragogy) in which farmers participate in discovery learning to acquire the knowledge and technology necessary to solve the issue independently. They are not considered "students" but rather "learning partners" and extension workers, not in the capacity of a "teacher," but as a "guide." Additionally, extension's primary function from time to time is to disseminate relevant information from research to farmers and convey farmers' difficulties to researchers to find remedies (Velasco-Jiménez 2020). Third, extension is not a short-term, irregular action; instead, extension is a long-term, continuous

activity. Additionally, counseling refers to learning that might influence behavior modification according to an individual's requirements imparted to the target by an extension worker. The principle of agricultural extension, according to Cervo (2020), (1) Farmers have the desire, ability, and capacity to develop potential, which motivates farmers to make efforts; (2) farmers or fishermen are not stupid, nor are they conservative; farmers or fishers are capable of learning and being creative; (3) learning by doing it yourself is practical; what the farmer experiences are more memorable and can become a new habit. This demonstrates that counseling is a process of change in people and society for desired improvements to occur. Greening on hilly slopes should be done through a well-planned and well-planned landscape (Andiyan & Cardiah 2021). Fourth, counseling is not motivated by the extension worker's interests but by the target community's needs. This implies that extension materials are developed in response to farmer recommendations and the target community's issues. According to Brenes (2020), extension materials may be obtained from various sources, including official government sources, commercial institutions or non-governmental groups involved in research, farmer experience, and other reputable sources. In Ribeiro (2020), Other credible sources imply that knowledge may affect one's views, opinions, attitudes, or behavior through the internalization process. Additionally, extension materials should be created to be more compatible with technology advancements and the unique local circumstances of the location for which extension is intended (Sieverding 2020). This was also confirmed by Laso (2018) which stated that counseling should consider the target's needs and the principles of learning. To provide high-quality results, skilled facilitators are required to know both the subject matter and successful learning techniques and technology. According to the DMAIC technique, one way to tackle issues is through identifying, measuring, analyzing, improving thinking, and managing problems (Arnal 2018). As with the extension concept, which tries to assist others in order for them to assist themselves, resources offering problem-solving skills are the primary requirements of the beneficiary community. Agricultural extension can be defined as a process of education for farmers and their families, as well as other agricultural business actors, in order to prepare them to assist and organize themselves in gaining access to markets, agricultural technology, capital, and other resources in order to increase their business's productivity, efficiency, and effectiveness, as well as their income and income. Additionally, agricultural extension serves as a link between researchers and farmers. Agricultural extension plays a critical role in agriculture by giving farmers knowledge, new technology, and instruction on how to adapt to climate change to raise productivity and quality of life. Thus, an agricultural extensionist must demonstrate a high level of honesty while assisting farmers in self-help for a better living (Rufi Salís 2021).

## **MATERIALS AND METHODS**

This is a descriptive quantitative study conducted in Cianjur Regency, West Java. The study took place between February and March 2020. Purposive sampling was utilized following the Sub-District Agricultural Extension Center (BPP). Each subdistrict received an accidental selection of 100 respondents. The descriptive analysis method was used to evaluate the data obtained in this study.

## **RESULT AND DISCUSSION**

### **Counseling issues in the COVID-19 pandemic**

The COVID-19 epidemic affects all individuals on this planet equally, although to varying degrees. Naturally, this circumstance also has several consequences in agricultural extension. The study discusses many of the issues and hurdles that agricultural extension encountered during the COVID-19 pandemic. To begin with, the low level of cosmopolitan farmers slows the flow of knowledge. According to Bessou (2020), farmers generally lack sufficient resilience as direct agents in agricultural production. Similarly, other components of the agricultural system are also affected. This is because of the effect of socio-cultural and socio-economic factors on farmers who do not embrace the notion of tough farmers. On the one hand, the presence of COVID-19 has brought the economy to a halt, but on the other hand, farmers may benefit from agricultural commodities that have performed very well throughout the COVID-19 pandemic, such as numerous empon-empon plants. However, because of cosmopolitan constraints, farmers should benefit from high commodity prices. As a consequence, intermediaries also benefit. Second, the COVID-19 epidemic teaches people to adapt swiftly and modify their way of life. Humans should gather information fast and sort it in this period of the COVID-19 pandemic. On the other hand, farmers find it difficult to change fast due to their inherent limits. The author's

statement is in line with the study results (Wowra 2021). The constraints imposed on farmers in various ways will influence the decision-making process when it comes to select the technology to be used by farmers. The low degree of cosmopolitanism, or farmers' capacity to be receptive to renewal or knowledge about the aspects of renewal, also exacerbates farmers' ability to judge whether to reject or embrace innovations. This will affect farmers' poor incomes, and it will not be easy to build sustainable agriculture. Third, farmers have a tiny circle of confidence. They prefer to trust only those close to them and whom they know well. Meanwhile, in the COVID-19 pandemic, humans are obliged to adopt new living habits that previously unknown individuals mirror (McAuliffe 2020). This underscores the fact that beneficiaries are often more concerned with the source ("who is speaking") than with the content ("what was said"). This indicates that the recipients will take the message seriously if presented by a source/facilitator who has particular qualities that the receiver admires or respects. On the other hand, if the "source" or facilitator is "disliked" or if people from institutions whose superiority is unknown get the beneficiaries' attention and reaction, the message delivered does not receive their attention and response. Rouault (2020) demonstrates that the main reason for forest edge farmers' incapacity to act as forest conservationists is the substantial effect of socio-cultural determinants and their inadequate conservation competence. Equal duty is a sign of loyalty, and familiarity with the group might be reluctant to change (Villabona 2018).

### **Future extension obstacles**

Agriculture extension in the future intends to boost agricultural production by encouraging the use of contemporary agricultural technology via training and demonstrations. Agricultural extension programs have become a popular kind of agricultural intervention in developing nations due to their ability to boost yields, reduce production costs, raise incomes, and alleviate poverty (Villabona 2018). Agricultural extension helps to enhance the function of boosting small farmers' agricultural production, which is highly reliant on farmers' capacity and desire to innovate. Consulting services and initiatives aim to improve agricultural collaboration by improving access to knowledge and information (Harun 2021). The present study outlines the future extension issues as follows, based on the aim and function of the expansion. To begin, the COVID-19 epidemic indirectly fosters an entrepreneurial mindset. It increases the excitement for entrepreneurship in an employee laid off due to the COVID-19 pandemic. Similarly, farmers should be able to prepare their agricultural goods to add value to them and avoid financial loss during the COVID-19 pandemic. To exist, humans should be able to get away. This implies that the extension materials' next task will instill an entrepreneurial attitude in farmers. Extension materials may take the form of character development and farmer skills in agricultural product processing. Agricultural items supplied directly to consumers are cheaper, which means that many farmers have poor wages. According to study conducted in Cianjur Regency, West Java, many farmers desire extension materials to be more focused on developing their entrepreneurial spirit to promote their companies. Materials tailored to the target's requirements are significantly influenced in high demand. Many farmers sell their crops to contractors at poor rates owing to a lack of post-harvest technologies and entrepreneurial aptitude.

Second, social media and online apps should be introduced as new modes of communication that agricultural extension workers, farmers, agricultural institutions, and non-governmental organizations may utilize to communicate and share agricultural knowledge (Lozano-Povis 2021). According to the report, most farmers have a favorable attitude toward the employing social media to get agricultural information (Lozano-Povis 2021). On the one hand, the majority are discouraged by perceived technological obstacles". The majority of families are receptive to using social media to get agricultural knowledge. On the other hand, the majority are discouraged by perceived technological problems in obtaining information. While social media is an inexpensive and convenient source of agricultural information, its employing is limited because it is a new communication technology that makes it difficult for farmers to operate. Thirdly, future counseling must reconcile stakeholder conflicts of interest in light of the fast flow of information in the digital world. Conflicts of interest exist between farmers, between farmers and intermediaries, between farmers and businesses, and between farmers and the government, to name a few. Future farmers should be well-versed in economics, law, politics, and the conservation of natural resources and the environment, which might create conflicts of interest. According to Lima (2020), agricultural instructors serve as trainers and educators for extension objectives, as well as a communicator and disseminator of technology and knowledge to farmers and the younger generation. According to Costa (2020), extension operations are not confined to providing farmers with new farming techniques

(technology transfer). According to Molin (2020), extension operations are not confined to providing farmers with new farming techniques (technology transfer).

## CONCLUSION

The extension is not simply sending information or messages to the target group. It is not just speaking to the community to express innovation. The extension is a collection of actions carried out gradually and consistently until a behavior change (knowledge, attitudes, and abilities) happens. Thus, the extension must be understood fully. The extension is based on the requirements of the recipient community. Extension must incorporate all interests and synergize all parties. Writers advise all parties to comprehend the genuine meaning of counselling. So that, there is a clear distinction between counseling and community service programs. This indicates that not all activities or technical training carried out by someone in the community are reported to have carried out counseling.

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