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The relationship of the role of the extension worker based on gender with the success level of the farmer group in Taliwang District, West Sumbawa Regency

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The relationship of the role of the extension worker based on gender with the success level of the farmer group in Taliwang District, West Sumbawa Regency

Abstract. This study aims to analyze the role of extension workers based on gender, the level of success of farmer groups in this case in behavior change, and the relationship between the role of extension workers and changes in the behavior of farmer groups. The research was conducted in Taliwang District using survey techniques. Structured interviews were conducted with 48 farmer respondents and in-depth interviews with extension workers. The data were analyzed using descriptive statistics, different test statistics, and Spearman's rank correlation. Research has found that female extension workers have a higher role than men, the level of behavior change in members of the farmer groups assisted by female extension workers is higher than in male extension workers. however, there is a correlation between the roles of both male and female extension workers with an increase in changes in the behavior of farmer group members. Thus, both female and male extension workers have the same potential to change farmer behavior. It is hoped that male extension workers can take the same approach as female extension workers, namely conducting coaching to the farmer groups under their supervision very intensively and using methods appropriate to the group's characteristics.

1. Introduction

The success of agricultural development is determined by changes in behavior in terms of knowledge, attitudes, and skills of the actors in agricultural development, in this case, the farmers [1], [2]. Thus, changes in farmer behavior are very essential for agricultural development [3], [4]. Behavior change can be achieved through the provision of counseling. Development counseling as a science is studying how human behavior can change or be changed so that they have new behaviors that lead to improved quality of life [5], [6]. Counseling is basically an effort to improve the quality of a person's or individual's behavior, which includes increasing cognitive, affective and psychomotor/conative aspects so that they have provisions/capital (human capital) that are ready to realize the welfare of their families and communities [7], [8].

The success of implementing agricultural extension activities is also determined by other factors besides the existence of farmer groups, namely the role of agricultural extension workers. Therefore, the role of extension workers in changing the behavior of farmers to realize the welfare of farming families is very important. For this reason, it is necessary to have agricultural extension workers who have the competence according to the target needs of extension [9]–[11]. This is in line with research findings that the performance of extension agents has an impact on changing the behavior of farmers, farming, and increasing farming production [11], [12],[13].

Agricultural extension workers have a strategic position and are seen as human resources capable of adjusting and utilizing and developing science and technology in managing agricultural resources, in order to achieve sustainable agriculture [15], [16]. The profession of a farmer or agricultural extension worker is still assumed by many to be suitable for men, men are considered to have more ability to work as extension workers [11]. Research in Sukabumi found that the performance of female extension workers was relatively low because there were more male agricultural extension workers than female extension workers. The small number of female PPLs is related to the research location which is

relatively far from the city center and remote so it is rare for them to be placed or willing to work in an area [17]. Another fact shows that the performance of female extension workers is higher than that of male extension workers. This success is related to the characteristics of women who have a maternal instinct and are associated with a high sense of responsibility [18].

The number of extension agents in West Nusa Tenggara is 1,922 people spread across 10 districts with a total of 17,912 farmer groups (POKTAN). In West Sumbawa Regency, there is a comparison between male and female extension officers as many as 48 males and 37 female extension officers. Male and female extension workers have equal opportunities to carry out their roles as extension officers properly [19]. Thus, the question in this study is what is the role of extension agents based on gender in increasing the success of farmer groups in Taliwang District, West Sumbawa Regency. Referring to the research question, the purpose of this study is to analyze the role of extension agents based on gender, the success rate of farmer groups as seen from changes in the behavior of farmer groups,

2. Methods

The location of this research is West Sumbawa Regency in Taliwang District with the consideration that the selected village has groups of advanced and novice farmers. The unit of analysis in this study was farmer groups in 6 villages in Taliwang District, namely Dalam, Sermong, Seloto, Batu Putih, Sampir, and Bugis Villages. Data collection was carried out using a survey technique by conducting interviews with 48 farmer respondents consisting of 24 administrators and 24 members of farmer groups from 6 farmer groups on the basis of the large number of farmer groups assisted by extension workers in each village. In addition, in-depth interviews were also conducted with 6 group advisors. The variables in this study are the role of extension workers, the success rate of farmer groups, and the relationship between the role of extension workers and the success rate of farmer groups.

3. Results and discussion

The role of extension agents in this research is the result of the activities carried out by extension agents based on the program and the results of interviews with several extension agents on the activities of the farmer groups they support. The role of extension workers is seen in three aspects, namely as a facilitator, motivator, and organizer.

3.1. The role of extension agents based on gender in increasing the success of the group.

In table 1 it appears that the female extension worker has carried out her role well in increasing the success of the group as a facilitator, motivator, and organizer. Female or male extension workers have carried out their roles well as facilitators, namely providing infrastructure and assistance to farmer groups, as motivators, namely supporting the efforts and activities of farmer groups, and as organizers, namely being able to organize and manage the development of farmer groups.

The Mann-Whitney test showed that there was a difference between the roles of male and female extension workers in increasing group success. Female extension workers have a higher role than male extension workers.

This fact eliminates the view that women are inappropriate and do not have the ability to become extension workers. Women have the same potential as men and can develop their abilities to become extension agents and be able to increase the success of the group or change the behavior of farmers. This is in line with findings that state that female extension workers have a high performance in changing farmer behavior [19].

Thus, the gender role stereotypes that place women in the domestic sector and men in the public sector are no longer relevant to the current situation and conditions [20], [21]. Currently, equal opportunities are given to women and men to become agricultural extension workers.

Table 1. The role of extension agents based on gender in increasing the success of the group

	The gender of the instructor						The Mann-Whitney Difference Test
	Female		Male		Total		
	Number of people	%	Number of people	%	Number of people	%	
Facilitator							
(31-35) Very Playful	4	16.7	-	-	4	8.3	0.000*
(25-30) Play a role	20	83.3	14	58.3	34	70.8	
(19-24) Enough Role	-	-	6	25	6	12.5	
(13-18) Not Playing a Role	-	-	4	16.7	4	8.3	
(7 -12) So Awkward	-	-	-	-	-	-	
Motivator							
(26-30) Very Playful	-	-	-	-	-	-	0.211
(21-25) Play a role	24	100	17	70.8	41	85.42	
(16-20) Enough Role	-	-	3	12.5	3	6.25	
(11-15) Not playing a role	-	-	4	16.7	4	8.33	
(6 -10) So Awkward	-	-	-	-	-	-	
Organizer							
(26-30) Very Playful	-	-	-	-	-	-	0.006*
(21-25) Play a role	24	100	20	83.3	44	91.7	
(16-20) Enough Role	-	-	-	-	-	-	
(11-15) No playing a role	-	-	4	16.7	4	8.3	
(6-10) So Awkward	-	-	-	-	-	-	
The total role of extension workers							
(80-95) Very Playful	4	16.67	-	-	4	8.3	0.001*
(65-79) Play a role	20	83.3	16	66.6	36	75	
(50-64) Enough Role	-	-	4	16.7	4	8.3	
(35-49) No playing a role	-	-	4	16.7	4	8.3	
(19-34) So awkward	-	-	-	-	-	-	

Source: Primary data processed, 2022

3.1.1. The role of the extension worker as a facilitator

Based on table 1 shows the results of research on the role of extension workers as facilitators. It appears that female extension workers are in the role category while male extension workers are in the moderate role category. According to [16], the facilitator is a role in facilitating needs, accommodating complaints, and analyzing problems for farmers. The role of a facilitator is more felt by female extension respondents because several factors make respondents more inclined to give positive responses to female extension workers, namely assistance in the form of physical assistance. However, there is non-physical assistance that has not been felt by male extension respondents who also do not directly help facilitate farmers in the farming process. Some of the roles of the facilitator include the role of facilitating infrastructure facilities,

3.1.2. The role of the extension worker as a motivator

The motivator is the role of extension workers who have the function of providing enthusiasm and increasing confidence in farming activities carried out by farmers. The results showed that the role of extension workers as a motivator, both female and male extension workers was in the role category. The role of a motivator is in the very good category, indicating that extension agents motivate farmers to

regularly go into the field to provide encouragement and solve problems. This result shows that extension agents have gained the trust of farmers.

3.1.3. The role of extension workers as organizers

Based on table 1 shows the results of research on the role of extension workers as organizers, that female and male extension workers are in the role category. In line with [22] that the role of the organizer is in a fairly good category with an achievement percentage of 60%. The organizer is the role of extension worker who have the function of forming a forum for farmers, helping to organize the tasks and roles of each group member so that they can manage and develop their farmer groups. Extension officers in this case try to keep the group moving in a dynamic direction. So that in determining the role of extension organizers, several measuring tools are obtained including forming farmer groups, helping to share management roles, group growth and development, and planning routine group meetings.

3.2. Farmer group success rate

The success rate of farmer groups is a category of behavior change experienced by farmer groups as a result of being given counseling, guidance, and assistance by extension agents. Changes in behavior in this case are changes in knowledge, attitudes, and skills.

3.2.1. Change in level of knowledge

Changes in the level of knowledge, in this case, include the influence of extension workers to increase understanding of farmers who are beneficial, such as understanding related to the material presented and the extent to which farmers apply their knowledge. Table 2 shows the influential results in increasing farmer knowledge because based on the questions asked, some farmers were able to mention all of the material that had been delivered by each extension agent, especially female extension respondents. For male extension workers there were 8 people who were only able to mention the conditions in the field applied one of the materials presented by the extension workers. Submission of this material is to ensure that farmers are able to overcome matters related to the cultivation process carried out by the farmers themselves.

Table 2. Changes in the Level of Success of Farmer Groups Based on Extension Gender

No.	Category	Extension				Total		The Mann Whitney Difference Test
		Female		Male		Σ	%	
		Σ	(%)	Σ	(%)			
1.	Change of knowledge							
	(10) Very Influential	-	-	-	-	-		
	(8-9) Influence	24	100	16	67	40	83.3	
	(6-7) Moderately Influential	-	-	8	33	8	16,7	
	(4-5) Unaffected	-	-	-	-	-	-	
	(2-3) Very Influential	-	-	-	-	-	-	
2.	Changes of skill							
	(10) Very Influential	-	-	-	-	-	-	
	(8-9) Influence	24	100	16	67	40	83.3	
	(6-7) Moderately Influential	-	-	8	33	8	16,7	
	(4-5) Unaffected	-	-	-	-	-	-	
	(2-3) Very Influential	-	-	-	-	-	-	
3.	Change of attitude							
	(10) Very Influential	-	-	-	-	-	-	
	(8-9) Influence	16	67	15	62.5	31	64,6	
	(6-7) Moderately Influential	8	33	9	37.5	17	35,4	
	(4-5) Unaffected	-	-	-	-	-	-	
	(2-3) Very Influential	-	-	-	-	-	-	
4.	Changes in Motives for Action							
	(10) Very Influential	-	-	4	16.5	4	8,3	
	(8-9) Influence	24	100	11	46	35	73	
	(6-7) Moderately Influential	-	-	5	21	5	10,4	
	(4-5) Unaffected	-	-	4	16.5	4	8,3	
	(2-3) Very Influential	-	-	-	-	-	-	
Group Success								
	(33-38) Very Influential	4	16,7	4	16,7	8	16,7	
	(27-32) Influence	20	83.3	16	66,6	36	75	
	(21-26) Influential enough	-	-	4	16,7	4	8,3	
	(15-20) No Effect	-	-	-	-	-	-	
	(8-14) Totally Influential	-	-	-	-	-	-	

Based on the results of the education level of the respondents, the majority of respondents were in the low-educated category, but many were able to provide positive responses related to their level of knowledge. This shows that the respondent has the determination to study and find out information related to his farming business through extension agents. So based the results show that female extension workers outperform male extension workers in influencing success in changing farmer knowledge.

3.2.2. Change of attitude

Changes in attitude in this regard include the ability of farmers to deal with problems and the ability of farmers to control pests independently after the presence of extension workers. Table 2 shows the results of the study that extension agents are in the category of quite a role. However, in general, male and female extension workers did not differ significantly in their influence. This is because, in the process of changing the attitude of extension agents, they both provide similar things in the process, such as conveying how to regulate the availability of fertilizers, medicines, pest and disease control as well as other problems faced by farmers. Farmers in terms of showing a change in attitude have indicated the influence of the role of extension workers because the process of changing attitudes has been shown by the enthusiasm of the extension worker as having the main task of improving the standard of living of farmers. In line with [23] the implementation of the main tasks of agricultural extension with a high success rate was obtained from the sincerity and enthusiasm of the extension workers in carrying out

the main tasks. It's just that as far as implementing changes in attitude, farmers still need the presence of extension workers in the process of overcoming problems such as irrigation problems that require communication with extension agents and P3A to solve them.

3.2.3. Skill change

Changes in skill level here include the influence of extension workers in improving abilities and skills to make them more effective and efficient. Measuring changes in skill levels in this study was seen from the application of technology and the extent to which it affected farmers' work time and results. Table 2 shows the results of female extension workers being more influential than male extension workers. Female extension workers provide changes in skill level which indicates that female extension workers have had an impact on farmers in influencing the ability to apply technology and various advantages in the form of an effective planting system, fewer pests encountered, and maximum and profitable results. The female extension respondents applied what they understood after the knowledge gained from the extension workers. One example of the activities of farmers who apply their understanding is to use the variety rotation method. This is something that has not been fully implemented by male extension workers. During cultivation, Some of the male extension respondents did what they usually do. So that female instructors are superior to male instructors in increasing changes in skill levels.

3.3. The relationship between the role of extension workers based on gender and the success rate of the group

Table 3 shows the results between the role of extension workers and the success rate of farmer groups. Based on the results of the calculation of the Spearman rank correlation statistical test, the female extension worker obtained the significance test results obtained by a value of 0.555 which was greater than the r table value, namely 0.404 at a significant level of 5%, indicating that there was a relationship between the role of the extension worker and the level of success.

Table 3. The relationship between the role of extension workers and the success rate of farmer groups.

X variable	Y variable				category rs
The role of female extension workers	Farmer group success rate	0.005*	0.555	0.404	Moderate correlation
The role of male extension workers	Farmer group success rate	0.000	0.926	0.404	Strong correlation

Note: *) there is a correlation at the significant level $\alpha=0.05$ compared to the r table
Source: primary data processed, 2021.

Based on the value of $r_s = 0.555$, it indicates a relationship or correlation between roles and the success rate of farmer groups based on female extension workers, with a moderate correlation category. While the results of the significance test for male extension workers obtained a value of 0.000 which indicated that there was a relationship between the role of extension workers and the success rate of farmer groups. Based on the results of the calculation of the Spearman rank correlation statistical test, the value of $r_s = 0.926$ is obtained, this value indicates a relationship or correlation between the role and the level of success of farmer groups based on male extension agents with a strong correlation category.

4. Conclusion and recommendations

4.1. Conclusion

- The role of extension workers as facilitators, motivators, and organizers of female extension workers has a higher score than the accumulated score of male extension workers, indicating

that female extension workers have a higher role than men in increasing the success rate of the group.

- The success rate of the group supervised by female extension workers was higher than the group supervised by male extension workers.
- There is a relationship between the role of extension workers, both male and female, and the success rate of the assisted farmer group, which means that the higher the role of the extension worker in increasing the success of the group, the higher the success rate of the assisted farmer group.

4.2. Recommendations

- Extension agents in carrying out their role in increasing the success of their assisted farmer groups should adopt and integrate the characteristics of men and women that extension workers must be diligent, patient, courageous, assertive and responsible.
- Both female and male extension workers have high potential to be developed in increasing the success of the group. So, it is very good if extension institutions at the sub-district and/or district level should have a program of regular meetings for extension workers to carry out joint evaluations, share experiences and problems and solutions.

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