



## Empowering Women Farmers in Achieving Independence at TPK Citere KPBS Pangalengan

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### Abstract

This research was conducted at TPK Citere, Sukamanah Village, Pangalengan District, Bandung Regency, during January - February 2024. The aim of the research was to examine the implementation of empowerment, level of independence, and empowerment in achieving independence of women farmers at TPK Citere KPBS Pangalengan. This research used a case study method with a qualitative approach. The variables observed included the empowerment of female farmers, covering cognitive, affective, and psychomotor aspects. Other variables observed were the independence of female farmers, including decision-making, creativity, and problem-solving skills. Informants were purposively selected, consisting of the extension worker coordinator, extension agents in the TPK Citere working area, and female farmers. The results of this research indicate that the empowerment carried out by KPBS Pangalengan is quite good. This is evidenced by the good cognitive and affective aspects possessed by female farmers, except for the psychomotor aspect. The independence of female farmers in TPK Citere is quite good, indicating potential independence because of their ability to make decisions, think creatively, and solve problems related to the material provided in the empowerment program by KPBS Pangalengan. Empowerment of female farmers sufficiently supports achieving independence as it can influence the mindset of female farmers in achieving independence in their farming business. With empowerment, female farmers can continue their efforts by utilizing all the abilities they have to continue experiencing development.

## Introduction

Dairy cattle business is one of the livestock businesses that has strategic value and good business prospects. This is supported by geographical, ecological, and land fertility conditions in several regions of Indonesia that have characteristics that are suitable for the development of an integrated dairy farming business. Based on data from the Directorate of Livestock and Animal Health of the Ministry of Agriculture in 2022, milk demand in Indonesia reached 4.4 million tons. This number has increased from the previous year which was 4.3 million tons. This need is predicted to continue to increase over time, thus showing that the dairy farming business in Indonesia is very promising.

The high demand for milk is inversely proportional to domestic milk production. Domestic milk production is only able to meet 20% of domestic demand and the remaining 80% is imported. According to the Central Bureau of Statistics in 2022, national milk production in 2022 produced 968,980.14 tons of milk. This figure is still too far from the demand figure. This shows that cows' milk production must be increased. One way to increase production is by

improving the quality of dairy farmers' resources. The high quality of breeder resources will certainly support the production results obtained (Hasan et al., 2022).

Improving the quality of farmer resources can be done in various ways, one of which is empowerment through counseling. Counseling is a non-formal way of education for the community, especially for farmers and their families in rural areas with the aim that farmers are able, able, and self-sufficient to improve or improve their own welfare and that of the community. The extension method is divided into three parts, including the individual method, the group method (large and small groups), and the mass extension method (Notoatmojo, 2011).

In livestock business, especially family-owned, women always involve. One of the efforts to improve the economic level of families and the efficiency of human resources in increasing dairy cattle production is by involving women. Women have the potential to work in the livestock subsector because of the diligence and tenacity that are needed in every work implementation. Women's involvement in the livestock sector can help increase production. Women with various daily work activities have a contribution value, especially when related to income in helping the family. Women's contribution, especially in the desire to increase income, aims to help the family adequacy. This makes the role of women farmers important and has a major influence on the sustainability of livestock business (Hamid, 2018).

In improving the quality of farmer resources, there are several abilities that are important to note, one of which is independence. Self-reliance in the context of community empowerment is the level of progress that must be achieved so that the community can build and maintain its survival with its own strength in a sustainable manner. Independence in another form that is more important is the ability to face various problems, including in finding, finding, and implementing decision-making solutions in overcoming the problems faced. The independence of women farmers means that women farmers are able to make decisions, think creatively, and are able to find problem-solving solutions in order to achieve livestock business efficiency (Mutiawardhana et al., 2013).

West Java is one of the milk production regions in Indonesia. Milk production in West Java Province itself from 2020 to 2022 has increased although not too significantly, namely 281,198.94 tons, 290,472.23 tons, and 300,198.28 tons. One of the milk-producing areas in West Java is the South Bandung Livestock Cooperative (KPBS) Pangalengan. The total milk production in KPBS Pangalengan is 21,412,659.88 kg / year. Thus, KPBS Pangalengan can contribute 10% of the total milk production in West Java. KPBS Pangalengan has 2,148 active members and 462 of them are women breeders. KPBS Pangalengan houses two sub-district working areas, namely Pangalengan District and Kertasari District. KPBS Pangalengan also has 29 TPK (Cooperative Service Places). Some of these TPK already use MCP (*Milk Collection Point*) technology, one of which is TPK Citere.

TPK Citere has 94 active members and 23 of them are female breeders. This area is one of the TPK which is often the object of counseling carried out by various parties, both from internal and external parties. Some of the empowerment activities that have been carried out by KPBS Pangalengan are empowerment related to disease prevention during FMD pandemic, processing forage feed in the form of silage, *business development* regarding earthworm cultivation, *financial education* regarding business and family financial management which is certainly beneficial for farmers, especially women farmers. The holding of these empowerment programs indicates that KPBS Pangalengan supports women independently. This must be supported by evidence of quality improvement, one of which is the independence of women breeders. But until now, there has been no research that discusses the independence of women

farmers in a measurable way. This study aims to examine the implementation of empowerment, level of independence, and empowerment in achieving independence of women farmers at TPK Citere KPBS Pangalengan.

## Methods

The object in this study is the empowerment and independence of women breeders. The subjects in this study were female dairy farmers who were members of the cooperative membership in TPK Citere. The research method used is a case study using a qualitative approach. A qualitative approach is an approach to understand the phenomena experienced by research subjects including roles, perceptions, behaviors, motivations, and actions holistically by means of descriptions in the form of words. Case study is a method of conducting a study of phenomena that occur with a focus on one's life experience (*real life context*) (Kaharuddin, 2020).

The determination of informants was determined through *purposive sampling* techniques so that 17 people were taken, consisting of 2 people from the cooperative (coordinators of extension workers and extension workers in the TPK Citere area) and 15 farmers in accordance with the criteria, namely: (1) Registered as members of cooperatives who are actively involved in dairy farming business, (2) Members of women farmers who are actively involved in counseling activities held by KPBS Pangalengan for the past six months.

Data collection is done by collecting primary and secondary data. Primary data were obtained through observation and direct interviews of women farmers using *in-depth interviews*. In-depth interviews are the process of digging deeply and being open to problems. The focus of research will be directed to the research center carried out with a list of questions that have been provided before (Pahleviannur, 2022).

The first variable in this study is the empowerment process of women breeders at TPK Citere which includes cognitive, affective, and psychomotor aspects. The second variable in this study is independence, with the following dimensions: (1) Decision making, namely the ability of women farmers to decide the best results in carrying out activities after receiving the empowerment program carried out by KPBS Pangalengan. (2) Creativity, namely the ideas that farmers have in overcoming the problems faced and the desire to develop their potential after receiving the empowerment program carried out by KPBS Pangalengan.

Problem Solving Solutions, which are about problems faced related to empowerment programs after receiving empowerment programs carried out by KPBS Pangalengan, including solutions to solving problems in groups, making silage, cultivating earthworms, and managing finances.

## Results and Discussion

### General State of the Research Site

TPK Citere is located in Sukamanah Village, Pangalengan District, which administratively belongs to Bandung Regency, West Java Province. Judging from the height of the Pangalengan Village area, Pangalengan District, Bandung Regency is located at an altitude of  $\pm 1570.94$  m above sea level. According to the recording results, the average daily temperature of this region ranges from 18°C-23°C while the highest number of rainy days is 180 days and the rainfall rate is 1500 mm per year (Monography of Sukamanah Village, 2024). According to Firdaus et al. (2021), the ideal conditions in the development of dairy cattle business are at temperatures ranging from 13°C -23°C with an altitude of 700 m – 1,000 m above sea level and humidity around 60% – 70%. Based on these characteristics, Sukamanah Village is suitable for the development of dairy cattle business. Several training, coaching, farmer empowerment, and dairy farming business strengthening programs have been implemented. The program exists in

various forms, both in the form of training programs from internal and external parties of KPBS Pangalengan.

The empowerment program for women farmers began with a training program with FFI (Frisian Flag Indonesia) called "Kartini Program". The program is carried out by *Stichting Nederlandse Vrijwilligers (SNV)*, a Dutch non-profit organization that helps the development of agriculture, renewable energy, and clean water, sanitation and hygiene sectors in developing countries. The program was attended by 500 people who were breeders, rancher wives, or children of female breeders. After the program, KPBS Pangalengan held training with a project for each TPK taken by 25 people based on permission letters from farmers. Farmers received training for two days on business development in earthworm cultivation and of course still inserted gender aspects

The approach taken by female farmer extension workers at KPBS Pangalengan is often carried out individually and in groups. An individual approach is carried out with cage control as assistance to members to improve the quality of their livestock. Usually, extension workers come to the cage during milking hours. The group approach is carried out through training and discussion in groups according to the group's request what materials are needed by farmers in the group. In delivering counseling materials, extension workers usually use *infocus*, *leaflets*, and *flipcharts* as their tools. The results of empowering farmers are able to increase knowledge in the livestock business. The visible impact is that farmers begin to implement their knowledge in their respective breeder businesses

The enthusiasm of farmers in participating in various empowerment programs is not good. This happens because the time does not coincide with the willingness of the farmer and the location is far from the farmer's home. To overcome this, the extension allows the farmer's wife or child to replace the farmer's role in the activity and there is *a door prize so that farmers are interested in participating in the program* (Romadhon & Saleh, 2019).

### **The State of Women Farmers Informers**

The potential of dairy farming in TPK Citere is quite high. In general, female farmers at TPK Citere raise dairy cattle because it has become a hereditary job from their parents who previously raised dairy cattle. Dairy farms owned by women farmers are not only used as the main source of income, but also considered as an investment for future sustainability. Therefore, most female farmers in TPK Citere have side jobs, namely farming and trading.

Milk production produced by dairy cows can be obtained by doing two milkings, namely in the morning and evening. The number of milk sales of female farmers in TPK Citere can be seen in table 1.

Table 1. Average number of milk sales per day

No	Informant	Total Milk Sales (kg/day)
1	A	25
2	CS	15
3	EA	10
4	EI	10
5	ICE	10
6	H	20
7	SHE	12
8	IM	10
9	IR	35
10	LM	20

11	N	40
12	NA	20
13	NK	15
14	O	10
15	Y	10

Source: Research Interview Results

Based on table 1, the amount of milk production in TPK Citere is quite variable. However, the average milk production is 17.45 kg / day. This is better than the results of research by Rinaldi (2017) that the milk production of lactation dairy cows produced at KPBS Pangalengan is still 11.80 kg / day. To get feed, female farmers usually go to find grass on forestry land or land around farms. In addition, buying at other farmers for forage feed and buying through cooperatives for concentrate feed.

### Identity of the Informant

Informants are people who are used to provide information about the situation and conditions of the research background. The informants studied amounted to 15 female farmers spread across TPK Citere who were registered as members of cooperatives who were actively involved in dairy farming business and actively participated in counseling for the last 6 months. Identity is measured based on age, formal and informal education, farming experience, number of livestock ownership, and selling price of milk.

Information obtained from informants is biased or unclear and can interfere when drawing conclusions, triangulation is needed to increase the validity and reliability of a study by finding additional informants in addition to the main informant and combining data from various sources so that they have different points of view and reduce bias when analyzing data. Therefore, additional informants obtained from this research are KPBS Pangalengan extension coordinators and extension workers in the TPK Citere work area.

### Age of Informant

Age is one indicator that shows a person's physical ability. The age of a farmer affects the productivity of their work in livestock business activities. Age is also closely related to the mindset of farmers in determining the management system that will be applied in livestock business activities. The age of informants in this study can be seen in Table 2.

Table 2. Age of Informant

No	Age Tier (Years)	Sum	
		Person	(%)
1	<15	0	0
2	15-64	14	93
3	65>	1	7
<b>Total Number of Informants</b>		<b>15</b>	<b>100</b>

Source: Research Interview Results

Based on the results in Table 2, the age of farmers is all in the productive age category, which is 14 people (93%). That the age is classified as productive, which is between 15-65 years This condition illustrates that livestock business at TPK Citere can still be managed properly. Generally, younger breeders have stronger and dynamic mental and physical abilities so that they can adopt new technology faster than older breeders (Rinaldi, 2017).

## Education Level

Education is an effort to make behavior change based on knowledge and experience that has been recognized and approved by the community. A person's level of education affects his level of understanding of something he learns (Hasan et al., 2022). The formal education of informants in this study can be seen in Table 3.

Table 3. Informant's Formal Education Level

No	Education Level	Sum	
		Person	(%)
1	SD	9	60
2	JUNIOR	2	13
3	High School / Vocational School	3	20
4	College	1	7
	<b>Total Number of Informants</b>	<b>15</b>	<b>100</b>

Source: Research Interview Results

Based on the results in Table 3, the level of formal education of informants in this study is still low because most of them only take the elementary level as many as 9 people (60%), high school / vocational school as many as 3 people (20%), junior high school with as many as 2 people (13%). Meanwhile, only 1-person (7%) informants took the university level. Low levels of education can be caused by various factors, such as individual motivation, economic factors, social factors, and accessibility. The higher one's level of education, of course, the higher the absorption of technology and the faster it will be to accept innovations that come from outside. Therefore, with the higher education of farmers, it is expected that the performance of the livestock business will grow and vice versa.

Non-formal education is education that is outside the educational path held at school. Non-formal education in this research area is counseling carried out by internal and external parties of KPBS Pangalengan. The level of non-formal education of informants in this study can be seen in Table 4.

Table 4. Non-formal Education Level of Informer

No	Number of Counseling Participants	Sum	
		Person	(%)
1	1-3	12	80
2	4-6	0	0
3	>6	3	20
	<b>Total Number of Informants</b>	<b>15</b>	<b>100</b>

Source: Research Interview Results

Based on the results in Table 3, the level of non-formal education of informants in this study is still low, namely 1-3 times as many as 12 people (80%). This happened because the counseling carried out by KPBS Pangalengan was carried out in rotation. Here's the explanation from LM (52):

"Counseling mah usually turn neng from the KPBS. For example, from this group how many people, then next year who will get who we don't know yet. But if the head of the group mah counseling (participates) all, that is also if someone can attend. From the group leader later must be sampein to the group members".

The statement above illustrates that the group leader plays an important role in delivering training materials conducted by KPBS Pangalengan. Therefore, if the group leader still does not understand the material provided, the group leader will hold a group meeting by presenting extension workers.

### Breeding Experience

Breeding experience is one of the important factors that a breeder must have. This is very important because the higher the experience of raising livestock, the more productivity and ability to work farmers in carrying out business activities. The experience of breeding on female farmers in this study can be seen in Table 5.

Table 5. Experience of Raising Informers

No	Breeding Experience (Years)	Sum	
		Person	(%)
1	<10	0	0
2	10 – 20	1	7
3	>20	14	93
	<b>Total Number of Informants</b>	<b>15</b>	<b>100</b>

Source: Research Interview Results

Based on the results in Table 4, the majority of livestock experience is >20 years as many as 14 people (93%) and 10-20 years as many as 1 person (7%). Most farmers have long livestock experience so that the ability to raise dairy cattle is enough so that they can decide what things need to be done in the business and can be used as evaluation material so that the business can grow (Mulatmi et al., 2019).

### Number of Livestock Ownership

The number of smallholder dairy cattle ownership can be divided into three groups, namely small-scale with ownership of 1-3 heads, medium-scale with ownership of 4-6 heads, and high-scale with ownership of  $\geq 7$  heads. Data on the number of dairy cattle ownership informants in this study can be seen in Table 6.

Table 6. Number of Informant Livestock Ownership

No	Number of Livestock Ownership	Sum	
		Person	(%)
1	1-3	6	40
2	4-6	4	27
3	$\geq 7$	5	33
	<b>Total Number of Informants</b>	<b>15</b>	<b>100</b>

Source: Research Interview Results

Based on the results in Table 5, the majority of livestock ownership is highest on a small scale (1-3 heads) as many as 6 people (40%), medium scale (4-6 heads) as many as 4 people (27%), and high scale (7) as many as 5 people (33%). This shows that the ownership of informant livestock is still dominated by small scale. The small number of livestock ownership owned is influenced by limited farmer capital and the impact of FMD outbreaks. Therefore, some female breeders regenerate in their livestock business by buying calves, virgins from other breeders, or obtaining from mothers who give birth. The population structure of livestock ownership can be seen in table 7.  $\geq$  (Dako et al., 2023).

Table 7. Population Structure of Informant Livestock Ownership

No	Report	Population Structure						
		Lactation brood	Dry brood	Dara Bunting	Dried Dara	Adult males	Pedet Betina	Male calves
1	A	5			2	1		
2	CS	3			2	1	3	
3	EA	2		1				
4	NO	1			1			
5	IS	2		1		3		
6	H	5			2			2
7	IT	1		1			1	
8	IN	1					1	
9	AND	7				2	2	1
10	LM	3					1	
11	N	9		2		3	3	
12	ON	3			3		2	2
13	NK	2			1	2	1	
14	Or	1		1	1			
15	And	1		1			2	

Source: Research Interview Results

Furthermore, female farmers who have high-scale livestock ownership have mostly been assisted by cage men. The number of cage children owned ranges from 1-3 cage pieces. The cage cubes usually come from local residents and also relatives of the breeder himself. Stalls play an important role in helping dairy cow rearing efforts, such as finding grass, feeding, cleaning the pen, milking, and delivering milking results to the local MCP.

### Selling Price of Milk

The selling price of milk is one indicator that can affect the independence of farmers because the higher the selling price of milk, the higher the dependence of farmers in their business. The selling price of milk of dairy cattle owned by informants in this study can be seen in Table 8.

Table 8. Selling Price of Informant Milk

No	Selling Price of Milk (Per kg)	Sum	
		Person	(%)
1	≤IDR 6,000	1	7
2	IDR 6,000 – IDR 7,000	7	47
3	≥IDR 7,000	7	47
	<b>Total Number of Informants</b>	<b>15</b>	<b>100</b>

Source: Research Interview Results

Based on the results in Table 8, the selling price of farmer milk is Rp6,000 – Rp7,000 as many as 7 people (47%), Rp7,000 as many as 7 people (47%), and Rp6,000 as many as 1 person (7%). The selling price at KPBS Pangalengan is influenced by the quality of milk. Farmer milk is purchased by KPBS Pangalengan at a price of Rp 6,500 per kilogram (kg) for good quality. This shows that the selling price of milk and the quality of farmers' milk are good.

## Empowering Women Farmers

The women farmer empowerment program can be used as a forum for women farmers to develop the potential of farmers in their roles in cognitive, affective, and psychomotor aspects (Walgito, 2011).

### Empowering Women Farmers in Cognitive Aspects

Cognitive is the knowledge of farmers after obtaining an empowerment program from KPBS Pangalengan. The informant's response in the cognitive aspect can be seen in Table 9.

Table 9. Informant Response in Cognitive Aspects

No	Items	Information
1	Farmer knowledge of the functions, duties, and roles of members in the group	In general, informants know the role in the group
2	Knowledge of breeders in the manufacture of silage	In general, informants know the types of forage feed, manufacturing procedures, and frequency of silage feeding
3	Knowledge of breeders in the cultivation of earthworms	In general, informants know about the media use, procedures, and marketing in earthworm cultivation
4	Farmer knowledge in managing finances	In general, informants know the difference between business and family money

Source: Research Interview Results

Based on the results of the research, most farmers have known the various materials that have been delivered after obtaining an empowerment program from KPBS Pangalengan. In attending meetings in the group, informants H, IM, IR, LM, N, NA, O, and Y have known the functions, tasks, and roles of members in the group. Informants always attend group meetings at the initiation of their respective group leaders. Extension workers are involved as parties who inspire the group in continuing the livestock business.

Informants A, CS, EA, and EI only know the role of members in the group. Informants at least take the RAT because it is an activity that must be followed by active members of the cooperative. Therefore, informants understand how to understand and respond well in groups, argue within groups, and criticize them wisely. Unlike the ES, IA, and NK informants do not know at all because they have never attended meetings in the group. The informant is always represented by the husband and son of the breeder.

The knowledge of women farmers in understanding silage making, informants CS, H, IA, IM, IR, LM, N, O and Y know all about the types of forage feed, manufacturing procedures, and frequency of silage feeding to their livestock, such as the IR statement (43) as follows:

"Yes, usually use corn leaves, continue to make them in large containers (silos) and close tightly. Give feed to the cow usually three times a day"

Unlike the informants A, CS, EA, and EI only a few know about silage making. This is because the term silage is poorly understood by informants. But after being explained using simpler language, the informant was able to decipher the answer precisely. As for the informants ES, IA, and NK did not know in making silage. This is because the informant has never attended silage making training.

The knowledge of women farmers regarding earthworm cultivation shows that informants CS, EA, H, IA, IM, IR, N, NA, NK, O, and Y know all about the media use, procedures, and marketing in earthworm cultivation, such as statement Y (39) as follows:

*"Yesterday there was a program from FFI (Frisian Flag Indonesia) and extension workers. The point is that being a farmer should not just livestock so that the waste can be used as well. Usually kohenya is used as a medium for worm feed to continue to harvest once a week, some even 2 times a week. The results are usually marketed through the city, the price is 25 thousand per kilo"*

Unlike informants A, EI, and LM only know a few things about earthworm cultivation. According to the informant, this was due to their lack of involvement in earthworm cultivation. Although the results of animal waste on farms are used as worm feed, informants are not involved in their maintenance and only rely on workers. The ES informant did not know because the informant had never been involved in worm farming and had never attended entrepreneurial counseling on earthworm cultivation.

The role of farmers in managing finances, informants CS, EA, H, IA, IM, IR, N, NA, NK, O, and Y know about the difference between business and family money, as stated by NA (52) as follows:

*"Ever participated in the material, income is divided for daily life as well as for livestock. For example, yesterday this income must be recorded."*

Unlike informants A, EI, and ES only know one of them, namely family finances. According to the informant, this is due to the lack of access to reach this information. In addition, complicated discussions from fellow breeders are also the main cause for informants difficult to digest information. Thus, it can be said that women breeders at TPK Citere know enough about all the material provided. However, in the future, improvements are needed related to the implementation of empowerment programs, especially in TPK Citere, such as statement Y (39) as follows:

*"There is a lot of latest info that I don't know yet. At most through counseling, management used to be lacking. It was quite helpful but mostly changed the mindset of old breeders. For example, if milking first must be 3 times but after counseling must be 2 times. Continue to project feed, if in the past each member took feed not using the rules (free). If you use the projection now, it will be more directed. Innovation and improvement from KPBS takes a long time."*

The statement above illustrates that the mindset of farmers is influenced by empowerment activities carried out by KPBS Pangalengan. Therefore, these activities need to be carried out regularly in order to improve cognitive aspects for farmers and as a forum for self-development for farmers. This statement is supported by Romadhon & Saleh (2018), that the ability and willingness and intention in trying to obtain various information and approaches with experienced fellow breeders encourage breeders to have enough knowledge.

### **Empowering Women Farmers in Affective Aspects**

Affective is the attitude of farmers in participating in training programs from KPBS Pangalengan. One of the attitudes can be shown by the farmer's confidence in the material that has been given. The informant's response in the affective aspect can be seen in Table 10.

Table 10. Informant Response in Affective Aspects

No	Items	Information
1	Farmer beliefs about the importance of attending group meetings	In general, farmers are confident and expect the program to continue
2	Confidence of breeders in the manufacture of silage	In general, informants believe it can affect the quality of milk
3	Confidence of breeders in carrying out earthworm cultivation	In general, informants believe that earthworm cultivation is promising enough to increase income
4	Farmer confidence in managing finances	In general, farmers are confident that they can manage income for investment in their livestock business

Source: Research Interview Results

Based on the results in table 9, most women farmers feel confident about the materials provided by KPBS Pangalengan. Women farmers believe that group meetings can add knowledge related to dairy cattle rearing business. The statement of ES (47) is as follows:

*"It's not bad neng usually mah extension workers oge dateng seagrass aya gather mah. So the farmer knows all about it in the tea group."*

The statement stated that women farmers expect counseling within the group to always be carried out regularly. This is to reduce misinformation in each farmer if farmers do not get their turn for the next extension. The attitude and communication of farmers to other farmers is very important to support livestock productivity (Mutiawardhana et al., 2013). Improving the quality of livestock in the livestock business, making silage is one way to improve the quality of milk, as stated by IR (43) as follows:

*"Sure because it is true for the quality of milk too. Silage is usually mixed with EM4 so there are good bacteria (probiotics) for animal feed. Then silage can also be stored so that it lasts so there is no need to scratch it every day"*

Based on the above statements, breeders are confident that the manufacture of silage has a good impact. Although many breeders complain that the manufacture needs caution, it does not rule out the possibility that breeders expect help from the local agency to provide a *chooper* machine as one of the tools to help make silage.

Earthworm cultivation is promising enough to increase income. Earthworm cultivation is carried out by providing manure as worm feed. Some farmers already have a special house for earthworm cultivation so that income can exceed the income from selling milk, as stated by CS (52) as follows:

*"Worm livestock is the main income because it can harvest 2 times a week, each harvest can be 5-6 kilos. There is also more income from worms than from depositing milk."*

The confidence of farmers in managing finances began with material exposure by the ILO (*International Labour Organization*) which is an international labor organization on *financial education*. It is a good view for farmers that the importance of planning and managing finances in livestock business, such as the statement of IM (48) as follows:

*"Saving is not leftovers but setting aside. If you don't save money, there are many needs so you have to save and there is a commitment to save how much."*

The above statement illustrates that the farmer's confidence to manage finances begins with setting aside from the proceeds of his income. These savings can anticipate if there is an urgency, both in the family and livestock business.

### Empowering Women Farmers in Psychomotor Aspects

Psychomotor on farmer empowerment focuses on changes or development in informant behavior or skills. The informant's response in the psychomotor aspect can be seen in Table 11.

Table 11. Informant Response in Psychomotor Aspects

No	Items	Information
1	Farmer skills in carrying out functions, duties, and roles of members in group meetings	In general, informants are able and apply it to date
2	The skill of breeders in the manufacture of silage	In general, informants are not able to apply in the manufacture of silage
3	Breeder skills in the cultivation of earthworms	In general, informants apply it to the present, both its cultivation and its marketing
4	Farmer skills in managing finances	In general, breeders are able to apply it temporarily

Source: Research Interview Results

Based on the results in table 11, most women farmers are only able and implement their role in group meetings. Although it only provides advice, it is a progress made by farmers after obtaining an empowerment program carried out by KPBS Pangalengan. The skills of women breeders in making silage, women breeders find it difficult to reach the tools and materials needed, as well as labor that can help make silage, as stated by O (63) as follows:

*"Because there are not as many cows as before, it would be a shame to make silage but there are few cows. Sometimes the material is difficult and easily moldy. It is also difficult to simpen because the lid is often open so that the air enters. Then the workforce is also only my own."*

Although farmers have good local knowledge about silage making, the objective situation in the field shows that farmers still do not apply it well. Thus, it is expected that farmers can improve their skills in processing forage because it can minimize difficulties in obtaining forage during the dry season or lack of feed ingredients.

Another indicator is the skill of breeders in the cultivation of earthworms. Women farmers believe that earthworm cultivation is more promising because some farmers who apply it have a greater income than the sale of milk, as stated by IR (43) as follows:

*"Next to the cage, I made a special house for worms. In my opinion, worms are more promising than cattle, but still worms also need cow dung. Instead of unfortunately, the waste is not managed, it becomes environmental pollution."*

Empowering farmers in managing finances, women breeders only apply temporarily. This is because there are arrears in the income from selling milk so that some farmers do not get any income at all. Ideally, farmers should prioritize the needs of their families first, such as clothing,

food, and shelter. But in fact, farmers prioritize the needs of their livestock such as feed and health in order to continue their livestock business.

Based on the results of the study, women breeders generally have not been able to apply the entire material provided by KPBS Pangalengan. The skills possessed by him still need to be improved for the continuity of animal husbandry in the future. The development of a skill can be done by providing special knowledge and training to individual individuals (Purnomo et al., 2016).

### Independence of Women Breeders

The independence of women farmers in maintaining their business is very important. In maintaining a livestock business, you must have a strong determination in order to build confidence in continuing your business (Anwarudin et al., 2020).

### Decision

Women farmers can decide the best results in carrying out activities after receiving empowerment programs carried out by KPBS Pangalengan. The response of informants in decision making can be seen in Table 12.

Table 12. Informant Response in Decision Making

No	Decision	Dominant Women	Together Equals	Dominant Males
1	Join Group Meetings	CS, EA, EI, ES, H, IA, IM, LM, NA, O	IR, N, NK	A, Y
2	Silage Making	CS, EA, EI, ES, H, IA, IM, LM, NA, O	IR, N, NK	A, Y
3	Earthworm Cultivation	CS, EA, EI, ES, H, IA, IM, LM, NA, O	IR, N, NK	A, Y
4	Managing Finances	All Informers	-	-

Source: Research Interview Results

Based on the results in Table 12, most dominant wives make decisions in following group meetings. The reason is because female breeders have more flexible time. In addition, the farm owned by informants CS, EA, EI, ES, H, IA, IM, LM, NA, O is inherited from his family. The statement of LM (52) is as follows:

*"Because the business comes down from my father, my husband also doesn't work on the farm, so it's nothing with me. I know what the situation is in the cage, so if there is anything I do, I weh immediately neng."*

In contrast to informants A and Y for decision making in all livestock activities. Decision making by informant A is done by her husband because the husband takes care of the farm. Meanwhile, the husband of informant Y has other jobs in other fields and lacks understanding of livestock so his own family decides, as Y (39) stated as follows:

*"My husband is not here, at least if anything with the father (parents). Usually, the father is told if there are complaints. But the one in the field is the father, so the one who decides the father, but still coordinates"*

In contrast to IR, N, and NK informants for decision making in activities involved in livestock business are carried out with equal men. This is because the husband also interferes in activities even though he uses his wife's name as an active member of the cooperative.

Decision making related to managing finances is entirely dominated by wives. Although some of them still have not participated in counseling, it is appropriate for the wife to manage finances, both in the family and work environment, as stated by Y (41) as follows:

*"More or less there are from KPBS, but if workers and housewives should be able to manage financial management before the program."*

The results of this study show that women farmers can make decisions in their livestock business. However, not only farmers who participate in counseling, but women farmers who do not participate in counseling can also make wise decisions. This is due to personal experiences, families, and fellow breeders in one group. In making these decisions, farmers will consult and prioritize information obtained based on the source of information itself, such as extension workers, group leaders, and fellow breeders (Mulatmi et al., 2019).

### **Creativeness**

The empowerment that has been carried out by KPBS Pangalengan aims to spur women farmers to think creatively in their livestock business. The response of informants in decision making can be seen in Table 13.

Table 13. Farmer's Response in Creative Thinking

No	Items	Information
1	Group activity plan according to the aspirations and needs of the group	In general, breeders have ideas and plans, and are able to realize them
2	Ideas and plans in the manufacture of silage	In general, informants do not yet have ideas and plans in making silage
3	Ideas and plans in the cultivation of earthworms	In general, informants have ideas and plans in the cultivation of earthworms
4	Ideas and plans in managing finances	In general, breeders have ideas and plans, and are able to realize them

Source: Research Interview Results

Based on the results in Table 13, most farmers have creative ideas in developing their knowledge after obtaining empowerment programs conducted by KPBS Pangalengan. However, for its realization, women farmers are still hesitant because they feel unsure of the ideas owned by each breeder, such as EI's statement (76) as follows:

*"Aya idea mah but as legitimate as kadituna. There are still suggestions for hanging out at RAT mah. Ordinary feed seagrass provides for official grants for cutting machines. So the cost of keur jukut mirah neng, teu kedah meser ka cooperative"*

(There are ideas but it's hard to do. Just give advice if in RAT. If the feed usually utilizes from official grants for the cutting machine. So the cost of grass is cheap, there is no need to buy it to the cooperative)

Women breeders in carrying out earthworm cultivation only have ideas and plans. So far, they are still selling past the bookie at a predetermined price. The statement of H (47) is as follows:

*"You want to sell it online, because it can be sold more expensive. If the income is good, I want to save it for school children"*

Unlike the informants N, NA, IR, and ES who have a special house for earthworm livestock because these informants are still in the same family. Here is statement N (46) as follows

*"In the future, the deket worm house here wants to be a drying place, so it can make cosmetics continue to be sold in the form of products. Continue to be together so that there are also a lot of worms so that there are also many products sold."*

The creativity of women farmers in managing finances is shown by informants A, CS, ES, H, IR, LM, NA, and Y realizing it as an investment for the future of their families. The statement of IR (43) is as follows:

*"Yes, if you want to manage it well, deduct expenses from your income. But if you are kepepet, just take it from savings. But you still have to be smart in managing it, the income is also used for business capital again with family needs"*

The realization carried out by women farmers varies, but has the same goal, namely to increase income and knowledge in raising dairy cattle. When compared to before some counseling by KPBS Pangalengan, farmers have not been able to distinguish business money from the needs of their families. At that time, farmers prioritized their primary needs so they still relied on assistance from related agencies. Smallholder farmers will certainly not be able to solve these problems on their own. Therefore, farmers will tend to look for ways, ideas or information to be able to help overcome their problems through consultation with fellow breeders, extension workers and cooperatives (Sulastri et al., 2022).

### Troubleshooting Solutions

Women farmers can decide the best results in carrying out activities after receiving empowerment programs carried out by KPBS Pangalengan. The informant's response in finding a solution can be seen in Table 14.

Table 14. Farmer Response in Problem Solving

No	Items	Finding Solutions	Haven't Found a Solution Yet
1	Solutions within the group according to the aspirations and needs of the group	A, CS, EA, EI, ES, IA, IM, IR, N, O, Y	H, LM, NA, NK
2	Solutions in the manufacture of silage	A, CS, EA, EI, ES, IA, IM, IR, N, O, Y	H, LM, NA, NK
3	Solutions in the cultivation of earthworms	A, CS, EA, EI, ES, IA, IM, IR, N, O, Y	H, LM, NA, NK
4	Solutions in managing finances	A, CS, EA, EI, ES, IA, IM, IR, N, O, Y	H, LM, NA, NK

Source: Research Interview Results

Based on the results of the research, most informants found solutions in every problem faced related to the material previously provided by KPBS Pangalengan. Informants A, CS, EA, EI, ES, IA, IM, IR, N, O, and Y find solutions to various problems in each indicator, such as statement N (46) as follows:

*"During the PMK era counseling with groups, buy lemons and honey. Mentality is also affected actually, but in the group just strengthen each other."*

The statement makes it clear that the farmer knows what needs to be done. The breeder is able to cope with what is happening within his group. This proves that farmers can solve their problems in their own livestock udaha, such as statement A (61) regarding managing finances as follows:

*"Seagrass produces more and more people who don't want to be acisna. Can spend more than the income of new heula livestock with the income of nu sanes. Ti worm egna atawa tina sell cabbage"*

(If the income is not good, use a little money. Usually use first from livestock income, then use other income. For example, from selling worms or selling cabbage).

In contrast to H, LM, NA, and NK informants who have not found a solution because the problem does not mean much to the informant. Therefore, other parties such as fellow livestock and extension workers in the region are involved in solving the problem. Extension workers can help during *checklist* activities, such as the statement from H (47) as follows:

*"There is no solution yet, because just from ngarit, it is enough. The price of milk is also still normal. If you don't worry about it, you usually meet other farmers while wondering why milk is so small."*

Based on this statement, although the empowerment program carried out by KPBS Pangalengan has opened new views for women farmers. This supports the increasing independence of women farmers. Farmers are able to find solutions to their problems which will further affect their livestock business. These results are in accordance with Hartley's statement in Susilowati et al. (2019) That a person who is capable of solving problems is something with support and direction, one will be compelled to reach solutions to their own practical and relational problems.

### **Empowerment Matrix in Achieving Independence of Women Farmers**

Empowerment in achieving farmer independence arises because of need. The need for farmers to gain knowledge, confidence, and skills in the livestock business to support the independence of women farmers. Therefore, farmers are trying to be involved in the KPBS Pangalengan empowerment program. The success of the empowerment program is seen from the cognitive aspects of women farmers related to the material provided. Based on the results of the study, the cognitive level of female breeders is quite good. Farmers are quite capable of presenting answers related to questions according to extension materials. The success of empowerment programs can also be seen from the affective aspect. Based on the results of the study, women farmers feel confident about the materials provided by KPBS Pangalengan. Farmers are confident that the material provided will have prospects in their livestock business. The empowerment carried out by KPBS Pangalengan in psychomotor aspects based on the results of the study was considered unfavorable. This is because breeders do not have urgency in their development related to the material provided (Herawati et al., 2012).

Empowerment affects the independence of women farmers. With the empowerment, farmers can continue their business by utilizing all abilities to continue to experience development. The independence of breeders owned by breeders is considered quite good. This is because the empowerment program is quite able to encourage farmers to make decisions by judging from the dominance of female breeders who make decisions in groups, making silage, cultivating earthworms, and managing finances. Empowerment also encourages the independence of farmers in creative thinking which can be seen through their ability to develop ideas and realize them. However, there are still many women breeders who have not realized it due to limited capital and manpower. Furthermore, empowerment is enough to encourage farmers to find solutions to problems that can be seen through solutions provided to problems with the material provided in the empowerment program. Women breeders can analyze the cause and effect that occurs and provide some considerations to determine the right solution. Women farmers are able to know how to develop themselves in raising dairy cattle.

Based on the results of the study, these dimensions show that the empowerment program that has been given to women farmers is able to achieve their independence in their livestock business. For farmers who are very independent and independent in raising livestock, they can increase their independence, and share knowledge, experience and skills with all dairy farmers. Meanwhile, for farmers who are less and not independent, they should increase the willingness to seek information, learn from neighbors or communities and experts and improve ways to overcome problems and foster satisfaction by being willing to gather (Purnomo et al., 2016).

## Conclusion

The empowerment carried out by KPBS Pangalengan is quite good. This is shown through three aspects, namely the cognitive, affective, and psychomotor aspects of female breeders. The cognitiveness that female breeders have is quite good. This is shown through the ability of farmers to convey answers related to the material that has been given. The affection that female breeders have is quite good. This is shown through the response of farmers regarding the material that has been given. The skills possessed by farmers in empowerment activities are still relatively low. This can be seen from their skills in making silage, cultivating earthworms, and managing finances that have not been fully implemented properly.

The independence of women breeders at TPK Citere shows the potential for independence because of their ability to make decisions, think creatively, and solve problems related to the material that has been given in the KPBS Pangalengan empowerment program. Independence is good enough, but it needs to be shown from high self-confidence and optimism to continue the business. The empowerment of women breeders is quite supportive in achieving the independence of women farmers. This is shown by the program that has been given by KPBS Pangalengan to influence the mindset of women farmers to achieve independence in their livestock business. With the empowerment, farmers can continue their business by utilizing all the capabilities they have so that they continue to experience development.

We recommend that the empowerment program carried out by KPBS Pangalengan focuses on improving the skills of farmers, especially women farmers on a regular basis. Emphasized skills such as extension activities carried out not only focus on efforts to improve the quality and quantity of milk, but also must pay attention to the efforts made to increase the independence of farmers.

The hope of the farmer empowerment program giver is that farmers are expected to increase their enthusiasm in participating in the empowerment program. The empowerment program provided can certainly measure the skills of the farmers themselves. The hope of women farmers for empowerment is that it is hoped that the empowerment program carried out by KPBS Pangalengan will expand the capacity and opportunities for farmers to participate in empowerment programs so that misinformation does not occur among farmers.

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