Diversification of Dairy Cow Milk Products: Case Studies in Sendang Village, Tulungagung Regency

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Abstract: Productivity of dairy farmers in Sendang Village could be done through coaching and training to dairy farmers in Sendang Village through the application of science and technology needed by dairy farmers, namely by providing pasteurization tools to process milk into various beverage products and products ready to be marketed. The expected targets and outputs in the PKM program are better management pattern system and a better accounting system, and Products produced (Beverage Flavored Milk Beef, Cheese, Ice Sticks, and Various Ice Cream Flavors). The steps taken in the community service program are dissemination to members of the cattle ranchers group regarding the benefits and benefits of management and production in the manufacture of milk beverage products; providing education and training on how to use pasteurization tools to process milk into a beverage product that has various flavors; and assistance creating product layouts, management training, accounting and marketing. The conclusions are the group of trained farmers have been able to carry out managerial activities in the business of making fresh milk-based food and beverage products; the group has been able to make a production layout, calculate the production costs and make a profit and loss statement and make a financial balance sheet report on the processing; the livestock groups have been able to plan the intended market and are able to determine the products to be marketed in a large capacity; and provision of production equipment assistance has increased the entrepreneurial capacity of dairy farmers in Sendang Village, Tulungagung Regency.

Keywords: Product Diversification; Entrepreneur; Pasteurization; Income; Local Potential

1. Introduction

The group of cattle in Sendang Village is a group of cattle farmers who have not developed yet and still urgently need guidance and training on how to make processed food and beverage products from milk ingredients. The number of members is quite large each house on average has 2-3 dairy cows.

If they are able to process cow's milk into dairy products such as food and drinks made from milk, they will be able to increase their income. However, until now the cattle ranchers have not been able to make processed cow milk into food/beverage products from milk ingredients. This is due to the fact that cattle farmers have never gained knowledge on how to make food/beverage products from milk ingredients. In addition, cattle farmers do not yet have the means of production to process cow's milk into food/beverage products. Actually they are very eager to try entrepreneurship by utilizing their cow's milk, but because of the knowledge to make food/beverage products not yet owned and they do not have the tools to process milk into food/drink, so until now they only sell raw cow's milk to cooperatives. So that this dairy farmer group needs to get attention for production facilities, fostering human resources and training on how to process cow's milk into various food and beverage products that have high economic value and quality, besides that it is necessary to develop and train human resources for the field of systems management and production.

Cow's milk processing is intended to diversify cow's milk into food in various forms. In addition, to avoid that cow's milk does not become wasteful or wasted. As we know that pure cow's milk can only survive in less than 24 hours. Past the time limit if you cannot use it, then milk will be wasted and cause no small amount of loss.

Diversification of this cow's milk can be managed in a home industry by a group of cattle ranchers. In making dairy foods/beverages, pasteurization tools are needed to process milk into a variety of flavored beverage products, tools for mixing milk to make milk porridges, mixer tools for making various cakes from milk and packaging tools for packaging the products ready to be marketed.

In an effort to increase the income of dairy farmers in Sendang Village could be done through coaching and training for dairy farmers in the village through the help of science and technology needed by cattle dairy farmers who provide pasteurization tools to process milk to produce various flavored beverage products and the product is ready to be marketed. The aim is to make cattle farmers more productive, creative and innovative in utilizing milk and managing dairy products into food / beverage products. Besides, it can print cattle farmers into entrepreneurs who can help increase their income and create independence with the economy for the surrounding community.

2. Methodology

Problems of the Partner in Production Aspect are that there are no dairy products, pure raw milk products, limited production management knowledge, management and accounting, and lack of production equipment and facilities. While the Problems of Partners from the Management Aspect include a lack of knowledge about the production management system, lack of knowledge in marketing, and limited knowledge of financial management. In the following community service program, the following Troubleshooting steps are as follows. In the first stage, socialization to members of the cattle ranchers group regarding the benefits and benefits of management and production knowledge in the manufacture of food/beverage milk products. The second step is to provide education and training on how to use pasteurization tools to process milk into a beverage product with a variety of flavors. The third stage is assistance in product layout, management training, accounting and marketing.

3. Results and Discussions

There are 2 partner groups namely: Cow Makmur Cow Breeder Group and Sido Makmur Cow Breeder Group both of which are members of the KUD TANI WILIS Cooperative Sendang Village Sendang District Sendang District Tulungagung Regency. Jayus as Chairperson of the Lembu Makmur group and Mr. Miskan Chairperson of the Sidomakmur Group with their group members in carrying out their daily activities as dairy farmers, which on average have 3 to 6 cows who can produce milk per day on average 15 liters to 30 liters produced in the morning and evening.

The procurement of goods is carried out by direct means to come to the store and buy in cash (freezer and cheese making equipment), some must go through an order (pasteurization machine). Besides these two methods, there are several tools that are purchased on line (ice cream maker and packaging). The tool is a major supporting factor in community service assistance activities that will increase income through fresh milk products that have long been cultivated by farmers in the hope of increasing the income of farmer families. Some tools donated by the Higher Education through UNISKA-Kediri (Islamic University of Kadir - Kediri) include tools for making ice cream, cheese, pasteurized milk and wawan ice.

The product of the training on milk diversification in Ds. Sendang was then introduced to students of Sendang 01 Public Elementary School. This activity is not only to socialize milk diversification products but also to assist government programs in improving nutrition of school-

age children. The implementation technique was socialization by directly introducing products to students in each class by using organoleptic tests to determine the level of student preference for the product. The total sample population is 108 students. The number of samples was taken from classes 1,3, and 5. Each of 36 students from 36 grade 1 students, for organoleptic ice cream as many as 9 people, for cheese 9 people, for pasteurized milk 9 people and for ice ice also 9 people. That also applies to classes 3 and 5. The survey results show that Wawan ice products are relatively preferred by students, with a favorite value of 25 points, while for pasteurized milk they get 20 points, for ice cream 20 points, while for cheese only get 4 points.

Implementation of community service program Diversification of Dairy Cattle Breeders in Sendang Village, Tulungagung Regency, East Java, which began with a site survey, program socialization, Providing education and training on how to use pasteurization tools to process milk into various beverage products, and subsequently Mentoring Make product layouts, management training, accounting and marketing. The improvement of the Partner's condition is as follows (table 1),

Table 1. Improvement of Partner Conditions after Implementation of the Community Service Program

No	Prior Partner Conditions	Partner Conditions After
I	Production 1. There are no dairy products 2. The results of raw raw milk. 3. Limited knowledge of production management, and financial management, 4. Lack of production equipment and facilities	1. Partners have been able to produced Milk Assorted flavors, Mawan Ice, Ice Cream and Cheese 2. Partners are able to process processed milk 3. Partners can make production layouts, calculate production costs and make profit and loss reports and make financial statement reports for the processing of fresh milk-based food and beverage products. 4. Partners already have pasteurization tools, frezzers, ice cream tools
II	Management 1. Lack of knowledge about production management systems. 2. Lack of knowledge in marketing. 3. Limited knowledge of financial management.	1. Partners have been able to carry out managerial activities (planning, implementation, completion) in the business of making fresh milk-based beverage products 2. Partners are able to conduct market surveys. 3. Partners already have skills in carrying out financial records

The program also has an impact on the health / education / peace of the community, among others the community so they like to drink processed milk can improve health, and educate milk production management, finance and marketing for the community of dairy farmers. The program also increases the income and participation of the community, namely pure milk directly sold by cooperatives compared to milk processed into ice ice will be able to increase income, and support the success of the Sendang District Agrotourism program. In addition, the program also supports self-financing and community self-help programs, where members of other dairy farmers are expected to be able to purchase pasteurization equipment, and the frezzers themselves.

Community service program of Diversification of Dairy Cattle Breeder Product in Sendang Village, Sendang District, Tulungagung Regency, East Java continues to the partner, Mr. Jayus who already has a milk processing business produced by producing Wawan Es which is sold to Sendang SDN and SMAN Boyolangu elementary schools every morning in bring his son to school. Fresh milk production was still the same, which was as much as 30 liters per day. What makes the difference was that the partners' income increases with the sale of fresh milk and its processed milk, which is a total income of Rp 210,000. The income was higher than before the implementation of the community service program that only sells fresh milk, with a total income of Rp. 150,000. This shows that the implementation of the community service program has increased the work partners' income by Rp 60,000 per day.

4. Conclusions

Based on management aspects, the trained breeders group has been able to carry out managerial activities (planning, implementation, completion) in the business of making fresh milk-based food and beverage products. Based on the aspects of production management, a group of trained breeders have been able to create a production layout, calculate the cost of production and make a profit and loss statement and to make a financial balance sheet report on the processing of food and beverage products based on fresh milk. In terms of marketing management aspects, the trained livestock groups have been able to plan the intended market and are able to determine the products to be marketed in a large capacity. Provision of production equipment assistance has increased the entrepreneurial ability of the group of dairy farmers in Sendang Village.

However, it is hoped that there will be ongoing assistance from internal groups of breeders so that the results of the assistance that has been done to increase farmers' income through the ability to process milk into products favored by school children and the community can be sustainable.

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