



# Increasing the Knowledge of Women Farmer Through Household Counseling on Food Safety in Sumberejo Village, Magelang Regency

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Received: April 22, 2024

Revised: May 30, 2024

Accepted: June 25, 2024

Published: June 30, 2024

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DOI: [10.29303/ujcs.v5i2.655](https://doi.org/10.29303/ujcs.v5i2.655)

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**Abstract:** Food safety is the condition and effort needed to prevent food from three possible contaminations, namely: biological, chemical and other contamination that can disturb, harm and endanger human health. Sumberejo Village is a Partner of Faculty of Agriculture and Business, Universitas Kristen Satya Wacana. Sumberejo Village has potential resources in the form of vegetables. It is supported by climate and temperature conditions that are suitable for vegetable production. One of the superior commodities produced in Sumberejo Village is beetroot fruit. Processing agricultural products into processed food products is an effort to increase economic value when prices fall or during harvest time. Processing beet tubers into processed products such as cookies, beetroot tea bags, cakes are one way to reduce losses due to falling prices and increase the selling value of beet tubers. Knowledge and safe food processing practices are very necessary in food processing activities. Through food safety education activities, it is hoped that the women farming community in Sumberejo village will be able to process beet tubers in accordance with the concept of food safety. The aim of this Community Service activity is to provide knowledge and understanding of female farmers in Sumberejo Village regarding food safety and efforts to prevent contamination during food processing and producing food that is safe for consumption by the community. Based on the results of implementing safety education activities in Sumberejo Village, it can be concluded that there has been an increase in knowledge about food safety. It can be seen in the results of the questionnaire that knowledge about food safety is important because it concerns health.

**Keywords:** Food security; Women farmers; Sumberejo village

## Introduction

Food is a nutritious substance that people eat and drink that contains energy resources to carry out activities. Apart from that, food has a function for growth and development and resistance to disease attacks. Good food and drink is something that is hygienic, healthy and has balanced nutrition, it consists of carbohydrates, protein, vitamins, minerals and water. Also, it does not contain substances that might endanger health (Nugraheni, Wiyatini, & Wiradona, 2018:129).

Food safety is a condition and effort needed to prevent food from contamination. There are three possibilities of food contamination, namely: biological, chemical and other substances that can be health threatening. In addition, the food does not violate any religious beliefs so that it is safe for consumption. The production of processed food must be in accordance with good manufacturing practices for quality and safety warranty. Moreover, the food must be eligible for consumption. It must be fresh and of good quality. Obviously, it must be free from biological, chemical and physical contamination (Anonymous, 2015). This is

### How to Cite:

Herawati, M. M., Handoko, Y. A. ., Sutrisno, A. J. ., Maria, M., Simamora, L. ., Yuliawati, Y., Nuswantara, B. ., & Simanjuntak, B. H. (2024). Increasing the Knowledge of Women Farmer Through Household Counseling on Food Safety in Sumberejo Village, Magelang Regency. *Unram Journal of Community Service*, 5(2), 139-143. <https://doi.org/10.29303/ujcs.v5i2.655>

because food security is very important for a society and country to achieve the Sustainable Development Goals (SDGs), which in turn, the SDGs must be met to achieve food and nutritional security for everyone.

In Indonesia, food safety is still an issue. It is because the skill, knowledge of safe food manufacturing and the responsibility of the producers are still relatively low. It can be said that the best practice in the production system or food chain is not appropriately implemented.

There are four main problems in current food safety. First, microbes contamination due to poor hygiene and sanitation. Second, chemical contamination caused by contaminated raw materials. Third, hazardous materials are misused. Fourth, the use of food additives that exceed the permitted limit (Yolenda, 2018).

According to the World Health Organization (WHO), there are five keys for a safe food supply. First, maintain cleanliness. People must wash their hands before preparing the food using clean water and soap. On top of that the cooking table where the ingredients will be used and the floor need to be cleaned as well using detergent. Second, separate the raw materials and the cooked ones. It is to prevent cross contamination. Third, cook the food properly until everything is exposed to heat. Appropriate cooking can help to neutralize almost all the dangerous microbes. Fourth, store the food at a safe temperature. It can be done by putting the food in a closed container to avoid flies, dust and contamination. Lastly, using water and safe raw material. The characteristics of safe raw materials are colorless and odorless. Aside from that, it has to be microbes and dangerous substance free. Therefore, society chooses fresh ingredients and not expired (Anonymous, 2020).

Sumberejo Village is the partner village of Faculty of Agriculture and Business, Universitas Kristen Satya Wacana. It is located in Ngablak sub district in Magelang regency. Sumberejo Village is a village surrounded by Mount Merbabu, Mount Andong and Mount Telomoyo which are rich in natural potential. The agriculture potential of the village is in the form of horticulture, such as: vegetables. One of the superior commodity production of Sumberejo Village is beetroot (Anonymous, 2020).

The obstacles in the vegetable farming business is price fluctuation. It is the condition where an abundant production lowered the price of the goods and vice versa. This situation also happens in beetroot production. When production is overflowing, prices become so low that they are not commensurate with production costs. Therefore, the phenomenon becomes the starting point for the Faculty of Agriculture and Business Community Service team to give assistance on how to process beetroot into processed products.

Processing agricultural products is one of the ways to increase the economy values when the price of the goods drops or during the harvest time. It can be processed into syrup, cookies, juice, tea and cake (Chasparinda, 2014; Simarmata, 2019; Morrissa, 2019). Not to mention that, processed goods are also one of the ways to reduce losses and increase the sales value of beetroot.

Knowledge and safe food manufacturing practices are necessary in food processing activities. Unsafe food processing can initiate 'foodborne disease'. If it happens, there will be large expenses to cover medical costs and productivity loss even death (Rosyanne, 2024). Through food safety education activities, it is hoped that the women farming community in Sumberejo village will be able to process beet tubers in accordance with the concept of food safety. The aim of this Community Service is to provide knowledge and understanding of female farmers in Sumberejo Village regarding food safety and efforts. It is to prevent contamination during food processing and producing food that is safe for consumption by the family and community.

## Method

### *Time and Location*

The activities were conducted in the village meeting hall on March, 31st 2022. This activity involves groups of women farmers in Sumberejo Village, Ngablak sub district in Magelang regency.

### *Participant*

The activity is for the women farmers in Sumberejo Village. The groups become the focus of socialization regarding food safety. It is because they hold an integral role in processing food for their families. Therefore, the dissemination of food safety is crucial and hopefully it can contribute insights about the importance of hygiene and food safety of the consumed goods. Also, to process agricultural products and maintain the health of the family and others.

### *Procedure*

This activity uses interactive and participative techniques combined with several learning methods (Sudjana, 2017), namely: a). Lecturing, b). Discussion, c). Inquiry, d). Demonstration, e). Hands-on method. An evaluation is needed to assess the achievement of the program objective. Questionnaire is one of the instruments used to measure the achievement of the program. The others are in the form of observation and participatory evaluation. Regarding this, the questionnaire was distributed through Google Form

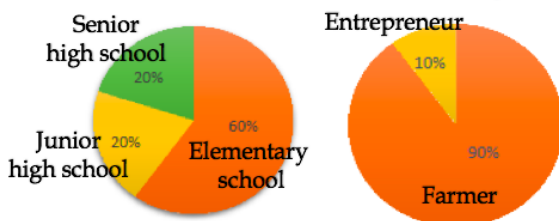
link. The participants attempt to answer the questions or the statements in the questionnaire.

**Result and Discussion**

The community service about food security in Sumberejo Village serves a purpose to give understanding regarding safe food production. As an indicator if the participants—female farmers— can comprehend the program, a questionnaire is distributed as the evaluation material. The results as follows:

*Education Level of Participants*

Figure 1a. shows that the participants have different educational levels. Sixty percent (60%) among them are junior high school graduates, two percent (2%) are elementary school graduates, and twenty percent (20%) are senior high school graduates. Their educational levels might influence their ability in absorbing or comprehending the materials of the program. Even though they are limited in terms of educational level, the participants have the initiative to ask questions and the desire to learn new things.



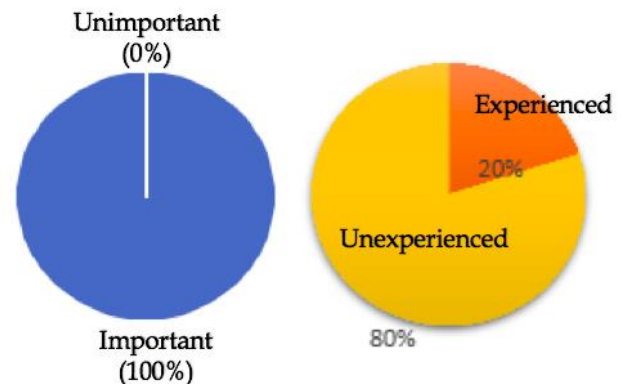
**Figure 1.** Education Level (a) and Occupations (b) of Participants

Meanwhile, in Figure 1b. revealed that ninety percent (90%) of the participants work as vegetable farmers. The commodities planted are beets, chayote, potatoes, lettuce, mustard greens, broccoli and chilies whereas the other 10% respondents have business in food processing—specifically in bakery—and ready-to-eat food.

*Experience and The Importance of Participation in Food Safety Socialization Program*

The participants stated that they have new experience from the program. Figure 2a. shows eighty percent (80%) of the participants have never received socialization about food safety and only twenty percent (20%) have participated. Simultaneously, Figure 2b. reveals that all the participants viewed the program as important. It gives knowledge about hygiene and on how to process food in the correct way. The reason why the participants think that having knowledge about food

safety is essential is because food in which it is healthy, hygienic and safe is crucial for health.

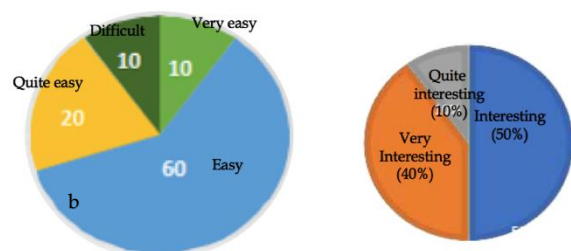


**Figure 2.** Participants' experience in joining socialization program (b) and The Importance Knowledge of Food Safety (a)

*Comprehension Levels and Participants' Interest Rate Toward Food Safety Socialization Program*

Figure 3a. indicates that the comprehension levels of the participants are varied after receiving socialization about food safety. Sixty percent (60%) of the participants mention that the material is easy to understand. Twenty percent (20%) stated that they can comprehend the materials moderately. Some participants stated that the material is really easy to understand and the others say that they have difficulty comprehending the material given. Both of the aforementioned respondents share the same percentage which is ten percent (10%).

The comprehension levels of the participants are different in accordance with their education level and organizational experiences. The groups of female farmers who had the experiences in organization have better understanding compared to those who do not. Reflecting from the phenomenon, the speakers have taken note to present the material using simpler language so that the participants can have better understanding toward the materials.



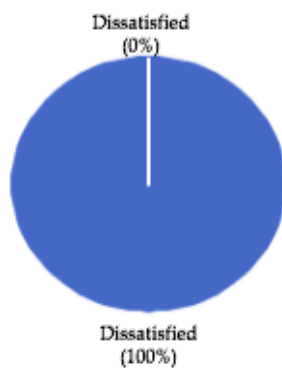
**Figure 3.** Comprehension Level (a) and Interest Rate to Food Safety Socialization Program (b)

Figure 3b. points out that 50% of the respondents signify that the given materials are highly interesting. Forty percent (40%) of the respondents viewed the

material given as interesting and ten percent (10%) thought that it was fairly interesting. The interest toward the material correlates with the participants' necessity.

#### *Fulfillment of Materials based on the Participants' Needs*

Although the participants work as female farmers, Figure 4. shows that they are also housewives. Socialization is considered fulfilling their needs since the knowledge of correct food processing is beneficial for them to uphold family's health. They hope that it can help to change the unhealthy lifestyle. It can be seen from the number of the respondents that they all in one voice stated that socialization is able to fulfill the needs of participants' knowledge



**Figure 4.** Fulfillment of Materials based on the Participants' Needs.

## Conclusion

In accordance with socialization to the women farmers in Sumberejo Village, it can be concluded that there is an improvement in the knowledge of food safety. It can be seen from the result of the questionnaire. The understanding and knowledge of food safety is considered exceptionally important because it concerns family and community health, especially in meeting the SDGs related to food security and nutrition. Moreover, participants also want to process agricultural products by continuously applying the concept of food safety.

#### Acknowledgments

The author would like to thank Universitas Kristen Satya Wacana for providing a grant for the Community Service program, so that this activity can be carried out well and smoothly.

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