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Community Service Focused on Food of Animal Products in Nagari Saniangbaka, X Koto Singkarak, Regency of Solok, West Sumatra

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ABSTRACT

Community service in Nagari Saniangbaka, X Koto Singkarak, Kabupaten Solok was conducted. This project was divided into three activities, i.e., extension of healthy and nutritious foods; extension of safe, healthy, authentic, and halal foods; and training of salted egg manufacturing. Students of SD Negeri 20 Saniangbaka, MTs Muhammadiyah Saniangbaka, and women of the Sumpadang clan were chosen to participate in these three activities, respectively. For the first and the second activities, the students were involved in a short talk, discussion, quiz, and distribution of UHT milk. For the third activity, the women were trained to make salted eggs by applying two processing methods, i.e., coating paste and immersion in brine solution. In general, those activities were run well with positive participant responses. The two former activities could improve the knowledge and awareness of the students in choosing and consuming the food. At the same time, the latter activity furnishes women with the ability to make various egg products for family consumption. Also, it prepares the essential knowledge that could be developed into an entrepreneurship option.

INTRODUCTION

Saniangbaka is one of eight nagari in X Koto Singkarak, Regency of Solok. *Nagari* is a Minangkabau term equivalent to sub-district but is only used in regencies of West Sumatra. Most Saniangbaka residents are engaged in agriculture, while others work in trade with various products. One of the resident businesses involved in the trading is focused on local traditional food. Some of the food trades in this area could be found in traditional markets, local shops, traditional restaurants, and small-scale enterprises.

School students and women are two objects that are important to nagari's development. The students are the future generation that needs healthy and nutritious foods. Access to food starts from home to the school, so insight is required to improve the students' awareness of food consumption. Meanwhile, the women in their families take a role in providing diverse good food for family consumption. On the other hand, they also have the opportunity to improve their family income by developing their food processing ability to be food entrepreneurs. Accordingly, specific activity is required to enhance their knowledge and skills.

From the consumer's point of view, body need healthy and nutritious foods or extended into safety (*aman*), healthy (*sehat*), authenticity (*utuh*), and halal foods. Safety food refers to the concept that food consumption does not endanger or pose a health risk to

the consumers. Healthy food refers to the availability of nutrition required by the human body. Authenticity food refers to food that fits with what they are stated/explained/claimed, with no addition or reduction over to the consumer recognition. Halal food refers to Islam syariah, both in the composition and processing. The latter is related to post-harvest preparation and manufacturing until the product is consumed.

Some cases related to unfulfilled concepts of safety, health, authenticity, and halal foods could be found in various food industries, from local, national, and international issues. For example, food contamination by pathogens often causes foodborne disease in many countries worldwide (Madilo et al., 2023); lack of nutrition generally occurs globally, one of them could be found in the failure of body growth (Soliman et al., 2021); food fraud in various form negatively implicated to the health of consumers (Cantín-Rojas, 2013); while, haram substances also often being causative factor in unfulfilled halal food supply related to meat, non-meat, and also food ingredients (Salahudin et al., 2017). Food acceptance is directly associated with food knowledge (Cavaliere & Ventura, 2018). Thus, those mentioned problems need to be overcome by an education approach to prevent repeated societal incidents.

From a producer's standpoint, from the level of households and small-scale enterprises to big industries, both food quality and diversity are two things that should be in line. In other words, those are essential considerations for daily consumption and the concept of entrepreneurship development. Abasolo and Lamug (2021) stressed that training design strengthens women's entrepreneurial ability.

Food from animal products could also be a choice for daily consumption, besides agricultural and fishery products frequently consumed for mealtime. Derivate products from milk, meat, and eggs were found in various forms in the market, store, traditional shop, and school cafeteria. Conveying information other than through school subjects is necessary to expand students' knowledge, awareness, and habits in consuming food. Providing basic skills in food processing is also important for women whose daily lives are spent mostly on household and agricultural activities. Based on some information explained above, community service related to food, particularly based on animal products, is important to be conducted in Nagari Saniangbaka.

The goals of this action are to enhance the knowledge of the school students related to the food they consume and to provide basic skills for the women related to egg processing. To reach the targets, an extension of healthy and nutritious foods could be chosen for elementary school students, and it could be extended into safe, healthy, authentic, and halal foods for junior high school students. Training in salted egg making is also a precise way to prepare women's knowledge and psychomotor skills in the Sumpadang clan.

METHODS

There were three activities conducted in this community service with different targeted participants. First, an extension of healthy and nutritious foods for students of SD Negeri 20 Saniangbaka. Then, an extension of safe, healthy, authentic, and halal foods for students of MTs Muhammadiyah Saniangbaka. The last is training women of the Sumpadang clan in salted egg manufacturing.

The method applied for the first and second activities is an extension. The extension is divided into short talks, discussions, quizzes with gifts in the form of food/beverage, and the distribution of food products for all participants. A short speech was delivered to provide enough information to the participants about the topic focused on this extension. The quiz was conducted by giving a contentious question, which the fastest rise hand

participant was allowed to answer. Some gifts in various forms of food were provided and distributed at the end of the activity.

The method for the third activity is training. The training is divided into short talk, demonstration, and direct practice. A short speech was delivered to briefly explain salted eggs, predominantly processing raw eggs into salted eggs. A demonstration was conducted to show how to coat the egg with a coating paste and make a brine solution. Then, participants were involved in direct practice by themselves with the guidance of the instructors, from egg cleaning to the salting stages. Duck egg, coarse salt, rice husk ash, and water were prepared. Some containers were used to store the coated and immersed eggs.

RESULT AND DISCUSSION

Extension of Healthy and Nutritious Foods for Students of Elementary School

The activity was conducted in a classroom of SD Negeri 20 Saniangbaka. A total of 26 students joined this activity in the last session of the school hour. The extension started with a short talk about healthy and nutritious foods, including an explanation of food hygiene and sanitation concepts. This activity also targeted school food that they bought near the school area. In general, the concern and awareness of participants about those might vary depending on their previous habits, insights, and perceptions. Thus, the project is beneficial in constructing their critical thinking about the points enlightened.



Figure 1. Extension of healthy and nutritious foods in SD Negeri 20 Saniangbaka

The activity continued with a discussion session to explore students' knowledge about the topic explained. In the quiz session, some gifts were distributed to the students who could answer the question correctly. The gift is provided in the form of food/beverage. In the last session, UHT milk was shared with all participants.

The high enthusiasm of the participants was noticed. Although their age level belongs to the children's age group, some students could give very relevant questions. In addition, many students raise their hands to try to answer questions that represent their enthusiasm in the quiz session.

Food choice control starts at home, where family involvement is important in providing healthy and nutritious foods. Outside the home, the student accesses food before entering the class, during class breaks, or after school to take a snack or meal. Some students might be bringing the food from home to school. However, most of the food they consume in the school is from food vendors near the school area, produced by other people. Because of that, the personal awareness of each student is essential and could encourage them to grow up via this activity.

This extension activity is an educational approach to enriching the food-related topic that might be indirectly included in school subjects. However, this activity is also a real effort to prevent them from foodborne diseases, either food infection or intoxication. Some food contaminants related to physical, chemical, and microbiological contaminants are also discussed to gain personal awareness.

Other than that, choosing the school to conduct this community service enriched the students with information from other institutions with different approaches. FAO and United Arab Emirates (2019) noted that school is an ideal place to prevent the occurrence of malnutrition. Thus, this would positively contribute to education, health, food security, and nutrition. In line with that, Adeoya et al. (2023) also highlighted that nutrition education is significant in improving and encouraging healthy food consumption in school.

Extension of Safety, Healthy, Authenticity, and Halal Foods for Students of Moslem Junior High School

This activity was conducted in a closed room in Building II, MTs Muhammadiyah Saniangbaka. This school is located in Jorong Balai Lalang, Saniangbaka. Thirty-five students attended this community service conducted after Zuhur's prayer. The activity started with a short talk session explaining the concepts of safety, health, authenticity, and halal foods. Some examples of unfulfilled expectations of the concept explained were also given to lead participants to think it was easier to understand the substances. The substances were delivered in simple language to adapt to the age of the participants.



Figure 2. Extension of safety, health, authenticity, and halal foods in MTs Muhammadiyah Saniangbaka

The activity also continued with a discussion session. Some gifts in the form of various packaged foods were provided to each active participant during the discussion. Similarly, a gift is offered to the student who can answer the question during the quiz session.

Some students showed enthusiasm for this activity, particularly during the discussion session. They were also asked to narrate some cases related to unfulfilled concepts of safety, health, authenticity, and halal foods. Considering the topic is quite detailed and using some scientific terms, the substances were delivered as fitter with the age of the participants. Simply word or sentence choice was used to transform some specific terms that might be difficult to understand.

However, safety and healthy foods might be more accessible and easier to understand, while authenticity and halal foods need more effort to be explained. The latter aspect is also stressed out due to the understanding that halal food is not only about raw material used. It also includes the whole process until the product is consumed.

Moreover, food safety education would positively affect food handling and consumption (Cha & Park, 2005). Experiences related to food and health significantly affect

students' cooking experience, food choice, and food hygiene (Beinert et al., 2022). Thus, this activity is beneficial as the initial step to create better food habits for the student and also to increase their concern for the food they consume.

Training of Salted Egg Manufacturing on Women of the Sumpadang Clan.

Training in salted egg making was conducted outdoors in a house of participants. The place was located in Jorong Balai Lalang, Saniangbaka. At least 13 participants were attending the activity. This community service was started by distributing leaflets containing the guidelines for salted egg manufacturing. Then, the action continued with a short talk to explain the method of salting egg making in more detail.



Figure 3. Training in salted egg manufacturing in the Sumpadang clan

After a short demonstration of how to prepare the coating paste and brining solution, participants were guided in practicing how to produce the product. The practice started with cleaning raw duck eggs using water and sponges to remove residual dirty substances that adhered to the eggshells, particularly duck feces. Then, the rice hulk ash and salt mixture combined with a small amount of water were coated in the egg. Meanwhile, brine solution as the alternative to make salted egg is also prepared before the egg immersed in this solution. Generally, the brine solution is crafted from a saturated salt solution made by dissolving the coarse salt in the water until it cannot dissolve more solute.

After some days of the salting process, the participants removed and cleaned the egg from the paste (coating paste method). Similarly, they also remove the egg from the brining solution (immersion method). After they boiled the egg, the eggshell of a cooked salted egg was removed, and then the egg was cut to see inside and eat the product.

From this activity, generally, participants know the methods and stages of producing salted eggs. However, the coating and immersing time must be extended to obtain a salted egg with deep orange-yellow color, gritty texture, and oil exudates. More practice is required for them to familiarize themselves with and diversify the method and taste of salted egg products. The injection method with adding pepper powder could also be a choice to vary the process and sensory characteristics of the salted egg.

Enhancing women's empowerment in agrifood systems significantly results in positive benefits for diets and child nutrition (FAO, 2023b). In fact, besides the diversification of egg products for family consumption, this could be potential income when salted egg production is transformed into entrepreneurship to encourage women's empowerment. Moreover, as Omar et al. (2014) noted, time management for families and entrepreneurs should be well prepared when women decide to be involved in entrepreneurship activity.

It is stated that women's empowerment could be conducted in many ways, including through food demonstrations and training in local food processing (FAO, 2023a). Food processing technology on the household level would help women when lean times of

agricultural products occur and more activity is spent on agriculture (Silva-Barbeau et al., 2005). Thus, this salted egg training is one of the beneficial actions to provide basic skills, particularly for rural women.

This training is the earlier way to direct the potency of the women in rural communities. Therefore, the contributions of academicians from other related backgrounds, government, banks, and non-governmental organization that focus on developing the economy and business of society and small-scale enterprises are interesting to transform into a business field. This is in line with Garperini and Acker (2009), who underlined that the progress of the initiation of education in rural people could be seen through a partnership between all related organizations and the media.

CONCLUSION

The extensions improve knowledge and develop good habits, insight, and perception for elementary and junior high school participants. In contrast, participants from women of the Sumpadang clan had the basic skill of applying coating paste and brining methods in making salted eggs. Awareness related to food consumption focused on animal products could be improved. Women's empowerment in the Sumpadang clan could be continued by involving them in entrepreneurial activity. Future involvement of other institutions is necessary to develop more insight into the school students and the skills of women living in rural areas.

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REFERENCES

- Abasolo, C. P., & Lamug, G. D. (2021). Entrepreneurship capabilities of women entrepreneurs and their contributions to entrepreneurship development. *International Journal of Current Science Research and Review*, 04(08), 997-1007. <https://doi.org/10.47191/ijcsrr/V4-i8-17>
- Adeoya, A. A., Akinwusi, A. T., & Nagatomi, R. (2023). Effectiveness of nutrition education in enhancing knowledge and attitude of pupils on the choice of school mid-day meal in Ibadan, Nigeria. *Food Science & Nutrition*, 11(7), 3758-3766. <https://doi.org/10.1002/fsn3.3359>
- Beinert, C., Sørli, A. C., Åbacka, G., Palojoiki, P., & Vik, F. N. (2022). Does food and health education in school influence students' everyday life? *Health Education Journal*, 81(1), 29-39. <https://doi.org/10.1177/00178969211045722>
- Cantín-Rojas, A. (2013). Food fraud and adulteration: A challenge for the foresight of veterinary services. *Revue Scientifique Technique – Office International des Épidémiologies*, 36(3), 1015-1024. <https://doi.org/10.20506/rst.36.3.2733>
- Cavaliere, A., & Ventura, V. (2018). The mismatch between food sustainability and

- consumer acceptance toward innovation technologies among millennial students: The case of shelf life extension. *Journal of Cleaner Production*, 175(1), 641-650. <https://doi.org/10.1016/j.jclepro.2017.12.087>
- Cha, M., & Park, J.-R. (2005). Identification of college students' food safety awareness and perceived barrier to proper food handling practices. *Preventive Nutrition and Food Science*, 10(1), 74-80. <https://doi.org/10.3746/jfn.2005.10.1.074>
- FAO & United Arab Emirates. (2019). Stepping up school-based food and nutrition education: Exploring challenges, finding solutions and building partnerships. FAO, Rome.
- FAO. (2023a). Promoting the economic empowerment of rural women for improved food security and nutrition in the Niger. Organization of the United Nations, Rome.
- FAO. (2023b). The status of women in agrifood systems. Food and Agriculture Organization of the United Nations, Rome.
- Garperini, D., & Acker, L. (2009). The role of education, training and capacity development in poverty reduction and food security. Food and Agriculture Organization of the United Nations, Rome.
- Madilo, F. K., Islam, M. N., Letsyo, E., Roy, N., Klutse, C. M., Quansah, E., Darku, P. A., & Amin, M. B. (2023). Foodborne pathogens awareness and food safety knowledge of street-vended food consumers: A case of university students in Ghana. *Heliyon*, 9(7), 17795. <https://doi.org/10.1016/j.heliyon.2023.e17795>
- Omar, N. A., Nazri, M. A., & Wel, C. A. C. (2014). Entrepreneurial training of low-income women micro-enterprises in the service sector in Malaysia: Understanding the problems and challenges. *Journal of Social and Development Sciences*, 5(4), 245-257. <https://doi.org/10.22610/jsds.v5i4.824>
- Salahudin, A., Ramli, M. A., Zulkeli, M. I. S., & Razak, M. I. A. (2017). Issue in halal meat product and authentication technology from Islamic perspectives. *International Journal of Academic Research in Business and Social Sciences*, 7(12), 1305-1315. <https://doi.org/10.6007/IJARBS/v7-i12/3768>
- Silva-Barbeau, I., Hull, S. G., Pehm, M. S., & Barbeau, W. E. (2005). Women's access to food-processing technology at the household level is associated with improved diets at the pre-harvest lean season in The Gambia. *Food Nutrition Bulletin*, 26(3), 297-308. <https://doi.org/10.1177/156482650502600308>
- Soliman, A., Sanctis, V. D., Alaaraj, N., Ahmed, S., Alyafei, F., Hamed, N., & Soliman, N. (2021). Early and long-term consequences of nutritional stunting: From childhood to adulthood. *Acta Bio-medica: Atenei Parmensis*, 92(1), e2021168.