

Innovation of Non-MSG Vegetable Broth for Health and Economic Self-Reliance in Lohia Village

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ABSTRACT

The community service program aimed to introduce simple food-processing technology through the innovation of non-MSG vegetable broth as an alternative food product based on local potential in Lohia Village, Muna Regency. The program was designed to address the community's limited knowledge of food processing, access to appropriate technology, and capacity for product packaging and marketing. The activities included coordination with agricultural extension officers and the village government, education on the benefits and business opportunities of vegetable broth, training in hygienic processing and packaging, marketing education, as well as discussions and question-and-answer sessions. The main activities, conducted in October 2025, were attended by 23 participants consisting of the village head, agricultural extension officers, farmers, and community members. The results showed active participation throughout the delivery of the materials, processing practices, and discussions. Participants gained a basic understanding of ingredient selection, production stages, process hygiene, packaging, branding, pricing, and online marketing. Support from the village government and agricultural extension officers, along with the availability of local raw materials, served as the main supporting factors. The program established an initial foundation for developing non-MSG vegetable broth products; however, further assistance, improved equipment, process standardization, quality testing, and measurable evaluation are needed to demonstrate sustainable health and economic impacts.

Keyword : Vegetable Broth, MSG-Free, Food Technology, Community Empowerment, Marketing.

INTRODUCTION

Lohia Village is located in Lohia District, Muna Regency, Southeast Sulawesi Province. Lohia District consists of nine villages and is characterized by coastal and inland areas that support agricultural activities. The publication *Lohia District in Figures 2024* also indicates the availability of horticultural agricultural activities and local economic development potential that can serve as a basis for diversifying agricultural products (Badan Pusat Statistik Kabupaten Muna, 2024). However, this potential has not yet been fully transformed into added value, as some vegetable products are still consumed or marketed in fresh form, while skills in food processing and household product development remain limited.

The program's final report identified a community need for alternative, more natural seasoning products that also offer economic opportunities. Widely marketed instant broth products are generally easily accessible, affordable, and supported by strong distribution networks. These conditions make it difficult for local products to compete unless they are supported by consistent quality, uniqueness, attractive packaging, and clear marketing strategies. Non-MSG vegetable instant broth was selected as an innovation because it can utilize locally available food

materials, increase the use value of agricultural products, and serve as an accessible food-processing technology learning medium at the household level.

The ingredients introduced in the program included wood ear mushrooms, carrots, shallots, garlic, moringa leaves, and scallions. These ingredients serve as sources of flavor, aroma, color, and natural nutritional components. Edible mushrooms contain various bioactive compounds and have nutritional potential (Assemie & Abaya, 2022). Garlic can improve the taste acceptability of moringa-based food products (Suriawati & Rachmawati, 2023), while moringa leaves are known to contain bioactive components and have diverse applications in food products (Panova et al., 2025). In this activity, this information was presented as educational material and was not intended to support any therapeutic or medical claims regarding the product.

The priority problems faced by the partners consisted of three main aspects. First, community knowledge and skills regarding ingredient selection, hygienic processing, drying, packaging, and storage remain limited. Second, the availability of processing equipment and facilities that comply with hygiene principles is uneven. Third, the capacity to develop brands, determine prices, design attractive packaging, and utilize social media and e-commerce platforms still needs to be strengthened. These three problems are interrelated because a high-quality product will not generate economic benefits if its quality is inconsistent and its marketing does not develop.

The proposed solutions were structured around three pillars: education, training, and marketing. The educational component focused on developing an understanding of healthy food and opportunities for utilizing agricultural products. The training component focused on demonstrations of processing, hygiene practices, and packaging techniques. Marketing education focused on introducing branding, pricing strategies, distribution, social media, and online commerce. The expected outcomes include increased application of food-processing knowledge and technology, the development of basic skills in producing non-MSG vegetable instant broth, and the establishment of an initial orientation for developing local product-based businesses.

Table 1. Mapping of Problems, Solutions, and Program Outputs

Permasalahan	Solusi	Bentuk Kegiatan	Luaran Awal
Limited knowledge of food processing technology	Transfer of knowledge and skills	Education on the benefits of ingredients, processing demonstrations, and hygienic processing practices	Basic understanding of the production process for non-MSG vegetable stock
Difficulties in marketing and product competition	Strengthening market orientation	Training on branding, packaging, pricing, distribution, social media, and e-commerce	Initial ideas for product identity and broader marketing channels

IMPLEMENTATION METHOD

The activity was conducted in Lohia Village, Lohia District, Muna Regency, with the main activities documented in October 2025. A total of 23 participants took part in the program, consisting of the village head, agricultural extension officers, farmers, housewives, and other community members. The involvement of the village government and agricultural extension officers was important because both played a role in mobilizing participants, coordinating the schedule with community activities, and facilitating follow-up assistance after the program was completed.

The community service methodology combined awareness-raising, community education, practical training, consultation, and initial mentoring. The implementation began with coordination with agricultural extension officers to determine the participants, schedule, venue, and training materials. The next stage involved providing information on the rationale for developing non-MSG vegetable stock, the functions of the ingredients, the importance of hygiene, and opportunities to increase product value. The materials were delivered communicatively using examples of ingredients and packaging so that participants could relate the explanations to their daily practices.

The technical training covered the selection of suitable ingredients, washing, cutting, processing, drying, grinding, mixing, and packaging. The final report did not include a standardized formulation, ingredient ratios, temperature settings, or standardized drying duration. Therefore, the activity is more appropriately positioned as an introduction to the production process and an initial demonstration. The key principles emphasized were the use of clean ingredients, the separation of damaged materials, the use of hygienic equipment, moisture control, and storage in sealed containers to maintain product quality.

The marketing materials covered product naming, the formulation of non-exaggerated product advantages, packaging design, cost-based pricing, and distribution channels. Participants were also introduced to the use of social media and e-commerce platforms as alternative channels for reaching consumers beyond the village. The activity concluded with a discussion and question-and-answer session, allowing participants to express their challenges, experiences, and needs regarding equipment and further assistance.

The evaluation of the activity was conducted descriptively based on attendance, participant involvement during the practical sessions, participant responses, and the intensity of questions raised during the discussion session. Pre-test and post-test instruments, laboratory testing, shelf-life testing, and sales records had not been documented in the final report. Therefore, the success indicators presented in this article are limited to the completion of the activity stages, participant participation, and the development of participants' initial understanding and practical skills.

Table 2. Implementation Stages and Evaluation Indicators

Stage	Method	Main Materials	Descriptive Indicators
Coordination	Meetings with Agricultural Extension Officers (PPL) and village government officials	Schedule, participants, location, and division of roles	Activities are scheduled and participants are organized
Extension/Outreach	Interactive lectures and examples of materials	Healthy food, local ingredients, and value-added opportunities	Participants are actively involved in the practical stages
Training	Demonstrations and hands-on practice	Processing, hygiene, drying, and packaging	Peserta terlibat dalam tahapan praktik
Marketing	Presentations and consultations	Branding, pricing, distribution, social media, and e-commerce	Participants identify various marketing strategy options
Evaluation	Discussions and question-and-answer sessions	Implementation challenges and follow-up needs	Responses, feedback, and initial commitments are identified

RESULTS AND DISCUSSION

Coordination and Implementation Readiness

Coordination with field agricultural extension officers was an initial stage that played a crucial role in ensuring the smooth implementation of the program. Extension officers served as a liaison between the implementation team and the community, assisting in selecting a schedule that did not conflict with farming activities and explaining the objectives of the program to prospective participants. The support of the village head further strengthened the program’s legitimacy and encouraged community participation. Such collaboration was important because the adoption of food technology at the village level depends not only on technical knowledge but also on trust, communication, and continuity of mentoring.

In terms of readiness, the program successfully engaged 23 participants from diverse backgrounds. The composition of participants, including extension officers, farmers, homemakers, and village government representatives, expanded the potential for adoption because knowledge was not limited to a single group. However, this diversity also required the materials to be simple, visual, and easy to practice. A demonstration-based approach was therefore adopted so that participants would not merely receive information but could also observe the relationship between raw materials, processing, packaging, and market opportunities.

Education on the Benefits and Potential of Non-MSG Vegetable Broth

The educational session introduced non-MSG vegetable broth as an alternative product that utilizes local commodities and can be developed on a household scale. The materials emphasized the importance of reading ingredient compositions, using safe and suitable ingredients, maintaining cleanliness, and avoiding health claims that go beyond available evidence. Participants were also

informed that the market value of the product does not depend solely on the absence of MSG, but also on consistency of taste, cleanliness, local identity, ease of use, and attractive packaging.

The educational activity was conducted interactively. Photographs of the implementation show the resource person delivering the material in front of the participants, while ingredients and product samples were available at the activity venue. The reported enthusiasm was reflected in the participants' attentiveness and the questions raised during the session. This response indicates that the topic of healthy food products and the utilization of agricultural products is relevant to community needs, although the extent of knowledge improvement cannot be stated quantitatively because no standardized test was administered.



Figure 1. Extension on the Benefits and Development Opportunities of Non-MSG Vegetable Broth

Processing and Packaging Training

The training provided hands-on experience with the sequence of processing activities. Participants were introduced to material selection, washing, size reduction, processing, drying, grinding, mixing, and packaging. The practical activities helped participants understand that product quality is determined from the moment raw materials are received. Damaged materials, inadequate washing, unclean equipment, or improperly sealed packaging can reduce product quality. Therefore, maintaining the cleanliness of equipment, hands, work surfaces, and storage containers was emphasized as an essential part of the training.

The documentation shows that participants observed and actively engaged in the handling of raw materials and packaging processes. Direct involvement helped bridge the gap between knowledge and practice, particularly for participants who were not yet familiar with food-processing technologies. Nevertheless, the activity did not yet result in standardized formulations or process parameters. This condition should be understood as an introductory stage. To ensure consistent production, follow-up activities are needed, including the

establishment of product composition, particle size, moisture content, shelf life, sanitation procedures, and production records.

Marketing Education and Product Competitiveness

Marketing was discussed as an integral part of the processing process. Local products face competition from industrial instant stock products that are already well known, widely available, and competitively priced. Therefore, the strategies introduced included creating a product name and identity, designing informative packaging, calculating prices based on production costs, using high-quality product photographs, and utilizing local networks and social media. Participants were encouraged to highlight the uniqueness of local ingredients and hygienic processing practices without making excessive health claims.

The delivery of marketing materials also broadened participants' perspectives by demonstrating that the market is not limited to consumers within the village. Social media and e-commerce platforms can expand market reach, but they require the ability to create content, respond to consumers, manage orders, and maintain a consistent supply. The limited technological literacy identified in the report remains a major challenge. Therefore, subsequent assistance should focus on practical activities such as creating business accounts, developing simple product catalogs, taking product photographs, calculating shipping costs, and maintaining transaction records.



Figure 2. Material Handling and Packaging Practices



Figure 3. Delivery of Product Marketing Materials

Discussion, Evaluation, and Community Participation

The discussion and question-and-answer session served as a platform for clarifying the material and exploring challenges in its implementation. Participants were able to raise questions regarding the processes, tools, materials, storage, pricing, and marketing. The large number of questions recorded in the report demonstrated their interest in gaining a deeper understanding of the product. The discussion also enabled the implementation team to identify mentoring needs that did not always emerge during the lecture session, particularly the need for equipment, further practical training, and marketing support.

The participation of 23 participants was an important achievement, as the program received support from various stakeholders. The presence of the village head and agricultural extension officers provided opportunities for program sustainability through ongoing village development and mentoring activities. The group photograph taken at the end of the activity further illustrated the involvement of both participants and the implementation team. Nevertheless, attendance and enthusiasm cannot yet be equated with changes in production behavior or increased income. Economic impacts require monitoring of production volume, costs, sales volume, number of customers, and profits over a specific period.



Figure 4. Discussion and Question Answer Session with Participants



Figure 5. Participants and the Activity Implementation Team in Lohia Village

Achievements, Supporting Factors, and Constraints

The main achievements of the program included the successful implementation of a series of coordination, extension, training, marketing, and participatory evaluation activities. Participants gained comprehensive exposure to the entire process, from raw materials to market access. This approach was more relevant than stand-alone production training because the partners' challenges involved technology, facilities, and marketing. The program also demonstrated that non-MSG vegetable stock can serve as a theme for developing a local-resource-based business that integrates health objectives, waste reduction through the utilization of still-usable vegetable parts, and increased value addition.

The supporting factors included support from the village government, the active involvement of agricultural extension officers, the availability of raw materials, community participation, and the use of demonstration-based methods. Meanwhile, the main constraints were limited equipment, inadequate processing facilities, restricted access to information technology, limited marketing experience, and the absence of standardized production processes. Competition with industrial products also requires a realistic differentiation strategy. Local products need to maintain consistent quality and supply before expanding their market reach so that consumer trust is not compromised.

The program evaluation still has methodological limitations. The available data are descriptive and do not yet include pre- and post-training knowledge scores, physicochemical or microbiological quality assessments, shelf-life measurements, consumer acceptance, or changes in income. Therefore, the outcomes that can be responsibly claimed are the successful implementation of the program and the development of initial capacity among participants. Conclusions regarding improvements in health or economic self-reliance should await further programs supported by measurable indicators.

Table 3. Program Achievements and Follow-Up Needs

Aspect	Documented Achievement	Follow-Up Needs
Participation	A total of 23 participants attended and actively engaged in the discussions.	Monitoring participants who continue to apply the practices or develop businesses.
Food Technology	Introduction to ingredients, processing sequences, hygiene, and packaging.	Standardized formulations, process parameters, quality testing, and shelf-life assessment.
Marketing	Introduction to branding, pricing, distribution, social media, and e-commerce.	Practical training in digital catalog development, cost recording, order management, and sales.
Institutional Support	Support from the village head and agricultural extension officers.	Establishment of management groups, mentoring schedules, and task distribution.

CONCLUSION

The implementation of the non-MSG vegetable stock innovation in Lohia Village was carried out through coordination with agricultural extension officers and the village government, followed by outreach activities, processing and packaging training, marketing education, and discussions. The activity was attended by 23 participants, who demonstrated active participation. The program successfully developed participants’ initial knowledge and skills in utilizing local ingredients, maintaining process hygiene, packaging, branding, pricing, and online marketing. Support from the village government and agricultural extension officers, as well as the availability of local ingredients, served as supporting factors. Meanwhile, limited equipment, lack of standardization, low digital literacy, and the absence of measurable evaluation were identified as challenges. Therefore, the program should be regarded as an initial foundation, and its impacts on health and economic independence cannot yet be considered final outcomes without further testing and continuous monitoring.

The activity should be continued through regular mentoring to establish standardized formulas and work procedures, improve cleanliness and production consistency, and conduct quality and shelf-life testing. Participants also need practical training in digital marketing, cost and sales recording, and evaluation through pre-tests and post-tests. The procurement or shared use of drying, grinding, and packaging equipment can be prioritized according to the group’s

capacity. Production and sales monitoring should also be conducted to measure the program's contribution to community income.

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