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Article

Strengthening MSME Capacity in The Implementation of Good Manufacturing Practices (GMP) Through Workshops and Interactive Discussions

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Abstract

Good Manufacturing Practices (GMP) are important guidelines for ensuring the safety, quality, and competitiveness of food products, particularly for micro, small, and medium enterprises (MSMEs). This community engagement program aimed to improve food MSME operators' understanding of Good Manufacturing Practices (GMP), particularly in relation to hygiene, sanitation, process control, contamination prevention, and regulatory readiness. The activity was held on June 18, 2026, at the Tahir Foundation Building, Faculty of Law, Andalas University, Padang, in the form of a workshop, material presentation, interactive discussion, question-and-answer session, and sharing session. The activity was attended by 100 participants consisting of food MSME operators, academics, the community service team, and related stakeholders. The results showed that participants gained an understanding of the importance of GMP as a basis for food safety control, particularly in preventing physical, chemical, and biological contamination, maintaining product quality, and improving business readiness for food certification and legality. The discussion also identified several common problems faced by MSMEs, such as sanitation of production facilities, worker hygiene, equipment cleanliness, raw material control, and production process documentation. This activity served as an initial step in strengthening the capacity of food MSMEs to implement GMP gradually and sustainably.

INTRODUCTION

Good Manufacturing Practices (GMP) are a set of guidelines for processed food production aimed at ensuring that food products are safe for consumption, of consistent quality, and protected from physical, chemical, and biological contamination. The implementation of GMP encompasses the cleanliness of production facilities, equipment sanitation, worker hygiene, raw material handling, packaging, storage, and product distribution. Understanding GMP is essential for food business operators, as its implementation helps prevent and minimize the risk of food contamination throughout the production process (Kartika & Beatrix, 2024).

The implementation of GMP is a crucial strategy for maintaining food quality and safety, particularly in small-scale food processing industries. By adopting GMP, food business operators can effectively control their production processes to ensure that the products are of high quality, safe for consumption, consistently available, and competitive in the marketplace (Satrio & Sunarjo, 2023). Furthermore, GMP provides a fundamental framework for ensuring food hygiene and safety by helping food business operators minimize the risk of contamination throughout the entire production process,

from raw material handling to the distribution of finished products to consumers (Amar et al., 2024).

Despite its importance, the implementation of GMP among Micro, Small, and Medium Enterprises (MSMEs) in the food sector remains challenging. Common issues include limited resources, inadequate production facilities, production layouts that do not comply with process flow requirements, inconsistent personal hygiene practices among workers, and insufficient sanitation of the production environment (Karisa et al., 2025). As a result, many food MSMEs are unable to fully implement food safety standards, leading to inconsistent product quality and an increased likelihood that their products fail to comply with established food safety requirements.

In addition to limitations related to production facilities and worker hygiene, many food MSMEs also face challenges associated with inadequate production equipment, the lack of standard operating procedures (SOPs), and production facilities that do not comply with GMP requirements. These issues may compromise product quality and safety and may also impede the process of obtaining regulatory approvals, such as the Indonesian Home Industry Food Production Permit (P-IRT) and other food product marketing authorizations (Affandi et al., 2023). In other food processing MSMEs, improvements in equipment hygiene and employee sanitation practices are also necessary to ensure that the production process consistently yields safe products that comply with established quality and food safety standards (Hasna et al., 2024).

The challenges encountered by food MSMEs extend beyond hygiene and production sanitation to include limited knowledge of food processing techniques, appropriate packaging selection, and readiness to meet regulatory and legal requirements for food businesses. Wellyalina et al. (2023) demonstrated that counseling and training programs for food Micro, Small, and Medium Enterprises (MSMEs) significantly enhanced business operators' knowledge and technical competencies in food processing, appropriate packaging selection, and their readiness to pursue business licensing and certification, including the Indonesian Home Industry Food Production Permit (P-IRT), registration with the Indonesian Food and Drug Authority (BPOM), and Halal certification. Similarly, Adisti et al. (2025) demonstrated that strengthening the competitiveness of food Micro, Small, and Medium Enterprises (MSMEs) requires integrated interventions, including training, the adoption of production technologies, technical assistance, the development of standard operating procedures (SOPs), product testing, trademark protection, and the enhancement of digital marketing. These findings suggest that capacity building for food MSMEs should be carried out comprehensively, encompassing not only hygiene and sanitation practices but also product quality, process standardization, packaging, regulatory compliance, and business sustainability.

One effective approach to assisting food Micro, Small, and Medium Enterprises (MSMEs) in understanding and implementing GMP is through workshops, training programs, and technical assistance. Workshops can serve as an initial step in enhancing the knowledge and skills of MSME operators regarding the fundamental principles of GMP, including hygiene, sanitation, production process control, and the importance of documentation and monitoring throughout the production process. Furthermore, participatory approaches involving outreach activities, hands-on training, practical demonstrations, and education on food product licensing and packaging can further enhance community capacity to develop higher value-added and more competitive local food products (Syukri et al., 2025).

During the workshop, MSME operators not only received an introduction to the theoretical principles of GMP but were also encouraged to identify deficiencies in their existing production processes. With a better understanding of GMP, business operators can gradually implement improvements, such as maintaining the cleanliness of production facilities, promoting good personal hygiene among workers, using appropriate production equipment, and improving sanitation within the production environment. The consistent implementation of GMP is expected to enhance compliance with food safety standards and contribute to the production of safer, higher-quality food products (Sari et al., 2025).

Although workshops are effective in raising the initial awareness of MSME operators, the long-term implementation of GMP requires sustained follow-up through technical assistance, the establishment of standard operating procedures (SOPs), regular evaluation, and production process standardization. Syukri et al. (2024) highlighted that technical assistance and process standardization for processed food products constitute important baseline information for supporting compliance with the requirements for obtaining food product marketing authorization. Adisti et al. (2025) further

reported that the sustainability of MSME capacity-building programs should be supported through the continuous updating of standard operating procedures (SOPs), systematic production and cost recording, regular monitoring, and consistent technical assistance. Therefore, community engagement programs should not only focus on improving participants' understanding but also on strengthening their ability to identify non-conformities in production processes and develop corrective actions that can be implemented progressively.

Accordingly, this community engagement program aims to enhance the understanding of food MSME operators regarding the principles of GMP and to assist participants in identifying aspects of their production processes that require improvement, particularly in relation to hygiene, sanitation, process control, and production documentation.

METHOD

The community engagement program was conducted on June 18, 2026, at the Tahir Foundation Building, Faculty of Law, Universitas Andalas, Padang, Indonesia. The program targeted food Micro, Small, and Medium Enterprises (MSMEs) and other stakeholders interested in improving the quality and safety of food products. The activities consisted of participant registration, lectures, interactive discussions, sharing sessions, and case study discussions on the implementation of GMP in food MSMEs.

The workshop began with a presentation on the fundamental concepts of GMP as a guideline for producing safe, high-quality food products that comply with food safety requirements. The training materials covered the basic principles of GMP, hygiene and sanitation practices during production, production facility requirements, worker health and personal hygiene, raw material and production process control, packaging, storage, food labeling, and production record-keeping and documentation. The program was evaluated descriptively by observing participants' engagement, assessing the interactive discussions and question-and-answer sessions, and identifying the common challenges raised by participants throughout the workshop.

Following the presentation, an interactive discussion and question-and-answer session was held to discuss the challenges encountered by participants in their production processes and to explore appropriate GMP implementation strategies tailored to the specific conditions of each MSME. Program evaluation was conducted qualitatively through observations of participant engagement during the discussions, with particular attention to participants' responses to the training materials and their ability to identify gaps in GMP implementation and propose appropriate improvements within their production processes.



Figure 1. Presentation of Good Manufacturing Practices (GMP) Workshop Materials



Figure 2. Workshop Materials on Good Manufacturing Practices (GMP)

RESULT AND DISCUSSION

A. Program Implementation and Workshop Delivery

A total of 100 attendees joined the program, including food MSME operators, academics, members of the community engagement team, and relevant stakeholders. The training combined lectures, interactive discussions, and case-based examples to illustrate practical GMP implementation in food production. Throughout the program, attendees actively engaged with issues related to food safety, product quality, business competitiveness, and regulatory compliance.

The workshop approach, which combined lectures, interactive discussions, and case study analysis, is consistent with community engagement strategies for food MSMEs that emphasize improving business operators' knowledge and technical competencies through education and training. Wellyalina et al. (2023) reported that counseling and training programs for processed food enterprises significantly improved participants' knowledge and technical skills in food processing and packaging while encouraging them to pursue the necessary business licenses and certifications. Accordingly, the GMP training provided in this program was designed not only to enhance participants' understanding of food safety principles but also to strengthen their readiness to improve product quality, packaging, and regulatory compliance.

1. Workshop Session: “Enhancing the Safety, Quality, and Competitiveness of Food MSME Products”

The main topic presented during the workshop was entitled “Enhancing the Safety, Quality, and Competitiveness of Food MSME Products.” The session emphasized the importance of implementing GMP among Micro, Small, and Medium Enterprises (MSMEs) in the food sector. The discussion covered the definition and significance of GMP, its relationship with food safety, and its role in enabling food business operators to produce safe, high-quality products that are protected from physical, chemical, and biological contamination.

The presentation was delivered in a structured and focused manner. Participants were introduced to practical approaches for identifying potential non-conformities in their production processes, determining the root causes of these issues, and developing corrective actions that could be implemented within their respective businesses. In addition, case-based examples were presented, including non-conformities in equipment cleaning areas, such as dirty sinks and standing water, to help participants understand the underlying causes of sanitation problems and appropriate corrective measures.

Participants responded positively to the workshop materials and demonstrated a high level of engagement throughout the session. The topics presented were highly relevant to the challenges commonly encountered in small-scale food production. Through the workshop, participants gained a better understanding that GMP implementation is essential not only for complying with certification and regulatory requirements but also for enhancing consumer confidence, maintaining product quality, and supporting the long-term sustainability of food businesses.

2. Business Operators' Sharing Session

Following the main presentation, the program proceeded with a sharing session involving food business operators. In this session, attendees discussed their experiences, challenges, and constraints in managing small-scale food processing enterprises. The discussion focused on practical issues commonly encountered in daily operations, including production area cleanliness, equipment sanitation, worker hygiene, raw material handling, packaging practices, and readiness to comply with food safety standards and regulatory requirements.

The session provided an interactive forum for exchanging experiences and identifying feasible improvements that could be applied gradually in each enterprise. Speakers, MSME operators, and other attendees discussed practical solutions based on real production conditions, allowing the material to be connected directly to the challenges faced by the businesses. Through this process, attendees did not only strengthen their theoretical understanding of GMP, but also gained practical insights into how GMP principles could be adapted to their own production environments.

A discussion-based approach is relevant to participatory community engagement because it allows business operators to share real production problems and contribute actively to problem-solving. Syukri et al. (2025) applied a similar approach through educational outreach, training, practical demonstrations, and guidance on food product marketing authorization and packaging development to support the advancement of local food products. Their findings emphasize that active involvement of community members is important for improving understanding of production practices, packaging, and regulatory compliance in a practical and contextual manner.

During the session, attendees showed strong interest in applying GMP principles to their businesses. They actively related the workshop materials to the conditions of their production facilities, particularly in relation to sanitation, personal hygiene, product quality, and food safety. These responses indicate that the sharing session functioned as an effective platform for raising awareness and encouraging gradual improvements in food production practices.

B. Participants' Response and Engagement

Throughout the workshop, participants demonstrated positive responses and active engagement during the training sessions. They paid close attention to the presentation on GMP because the topics were directly relevant to improving the safety, quality, and competitiveness of food products produced by Micro, Small, and Medium Enterprises (MSMEs). Their enthusiasm was reflected in their interest in discussions on the importance of production facility cleanliness, equipment sanitation, worker hygiene, and the prevention of physical, chemical, and biological contamination throughout the food production process.

Participant engagement was particularly evident during the discussion and experience-sharing sessions, where they examined examples of GMP non-conformities and explored appropriate corrective actions. Participants were encouraged to recognize that seemingly minor issues, such as poor sanitation in equipment washing areas, standing water, or the absence of adequate sanitation procedures, can significantly compromise food safety and product quality if left unaddressed. Through these activities, participants developed a broader understanding that GMP implementation is essential not only for meeting certification and regulatory requirements but also for enhancing consumer confidence and supporting the long-term sustainability of food businesses.

C. Challenges Encountered

The primary challenge encountered during the workshop was the limited time available to examine GMP implementation in depth for the diverse business operations represented by the participants. GMP encompasses a broad range of aspects, including production facility hygiene, equipment sanitation, worker hygiene, raw material control, contamination prevention, process control, and corrective actions. Consequently, it was not possible to discuss every technical issue faced by individual MSMEs within a single workshop.

Another challenge was the variation in participants' levels of knowledge and the conditions of their respective businesses. Although many business operators recognized the importance of maintaining hygienic production practices, some had not yet established written standard operating procedures or clearly defined sanitation responsibilities. Examples of non-conformities, such as dirty sinks and standing water in equipment washing areas, illustrated that even seemingly minor sanitation

issues can persist in the absence of designated responsibilities and consistently implemented cleaning procedures.

A further challenge relates to the need for continued support following the workshop to enable participants to progressively implement GMP within their own enterprises. While the program successfully introduced the fundamental principles of GMP, assisted participants in identifying production-related non-conformities, and facilitated the development of simple corrective actions, effective implementation requires ongoing technical assistance, periodic evaluation, and a sustained commitment from business operators. Such follow-up efforts are essential to ensure that production processes become more hygienic, safer, and fully compliant with certification and regulatory requirements.

D. Recommended Follow-up Actions

The recommended follow-up to this workshop is the provision of continuous technical assistance to food Micro, Small, and Medium Enterprises (MSMEs) in the progressive implementation of GMP. This assistance should focus on strengthening fundamental aspects of food production, including production facility cleanliness, equipment sanitation, worker hygiene, raw material control, waste management, and production record-keeping. In addition, the program should support the development of simple standard operating procedures (SOPs) to ensure that improvements are implemented systematically, consistently, and with proper documentation. These recommendations are consistent with the findings of Adisti et al. 2025), who demonstrated that strengthening food MSMEs requires integrated interventions involving training, the adoption of production technologies, technical assistance, the development of standard operating procedures, product testing, and improvements in business management practices. Furthermore, business operators should be guided in identifying non-conformities, determining their root causes, implementing corrective measures, and establishing preventive actions to ensure that improvements are sustained rather than remaining short-term solutions.

To ensure the effective implementation of the knowledge gained during the workshop, periodic evaluations should also be conducted. These evaluations may include on-site visits, simple assessments of production facilities, and follow-up discussion forums to address challenges encountered by business operators. Such follow-up activities are essential to ensure that food MSMEs not only understand the principles of GMP but are also able to integrate them into their daily production practices, thereby improving food safety, product quality, market competitiveness, and readiness to comply with certification and regulatory requirements.

CONCLUSION

The workshop on the implementation of GMP for sustainable food Micro, Small, and Medium Enterprises (MSMEs) was successfully conducted and received positive responses from the participants. The program enhanced participants' understanding of the importance of GMP in ensuring food safety, maintaining product quality, promoting worker hygiene, improving production sanitation, strengthening process control, and preparing food businesses to meet certification and regulatory requirements. Through lectures, interactive discussions, question-and-answer sessions, and experience-sharing activities, participants were able to identify several aspects of their production processes requiring improvement, particularly in relation to production facility cleanliness, equipment sanitation, raw material control, and production documentation. Although the workshop represents an important initial step in strengthening the capacity of food MSMEs, the sustainable implementation of GMP will require continuous technical assistance, periodic evaluation, and a strong commitment from business operators.

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