



Community Empowerment in Lamtheun Village Through Livestock Development, Education Improvement, Public Health, and MSME Enhancement

Isthafan Najmi¹, Irwan Safwadi², Agusmadi³, Yasser⁴, Muhammad Al Daffa⁵

¹Departemen Magister Manajemen, Faculty of Economics and Business, Abulyatama University, Lampoh Keude, Aceh Besar 23372 Indonesia

²Development Economics Program, Faculty of Economics and Business, Abulyatama University, Aceh Besar, 23372 Indonesia

³Department of Accounting, Faculty of Economics and Business, Abulyatama University, Aceh Besar, 23372 Indonesia

⁵Departemen Manajemen, Faculty of Economics and Business, Abulyatama University, Lampoh Keude, Aceh Besar 23372 Indonesia

⁴Department of Agrotechnology, Faculty of Agriculture, Abulyatama University, Lampoh Keude Aceh Besar, 23372 Indonesia

Corresponding Author: isthafannajmi@abulyatama.ac.id

Abstract

This study and community service program in Gampong Lamtheun aim to enhance economic independence and quality of life through an integrated, holistic approach. The program focuses on strengthening small-scale livestock farming, improving education, optimising public health, and developing micro, small, and medium enterprises (MSMEs). The implementation employed participatory methods, including field surveys, focus group discussions, technical training, business mentoring, health education, and basic literacy programs. The results indicate significant improvements in community awareness and capacity across all sectors. Livestock programs increased knowledge of animal health management and productivity, while literacy initiatives enhanced children's and youth's reading interest and engagement. Health interventions improved environmental hygiene awareness through waste management education, and MSME empowerment strengthened local economic activities through training in branding, financial management, and digital marketing. The integration of these four pillars demonstrates a synergistic effect in accelerating sustainable village development. The program contributed to increased household income, improved human resource quality, and better public health conditions. In conclusion, holistic and participatory empowerment strategies are effective in fostering sustainable rural development. The study recommends continuous support and commitment from village authorities and relevant institutions to ensure program sustainability and to achieve long-term socio-economic independence.

Article Info

Received: 23 March 2026

Revised: 08 April 2026

Accepted: 10 April 2026

Available online: 30 April 2026

Keywords

Community Empowerment

Livestock Development

MSMEs Development

Public Health Improvement

Education Enhancement

1. Introduction

Community empowerment has become a strategic approach in achieving sustainable rural development by integrating economic, social, and environmental aspects. In many developing regions, including rural areas in Indonesia, empowerment programs aim to enhance community independence by strengthening local capacities and optimising available resources. Gampong Lamtheun, located in Darul Imarah District, Aceh Besar, possesses significant natural and human resource potential; however, it still faces challenges in improving microeconomic sectors and overall quality of life. Therefore, integrated interventions that address both economic sectors, such as livestock and MSMEs, and social sectors such as education and health, are crucial to ensure sustainable development outcomes [1]–[5].

In the context of higher education engagement, community service programs such as Kuliah Kerja Nyata (KKN) play an important role in fostering students' social awareness, empathy, and interdisciplinary collaboration skills. Through direct interaction with communities, students gain practical insights into complex socio-economic issues that classroom learning alone cannot provide. This participatory engagement not only benefits students but also strengthens collaboration among academia, local governments, and communities to address development challenges [6]–[9].

One of the primary issues identified in Gampong Lamtheun is the relatively low level of environmental hygiene and public awareness regarding sanitation and waste management. Poor environmental practices can negatively impact public health and overall well-being. Previous studies highlight that community awareness is strongly influenced by a sense of ownership and responsibility toward the environment, which can be developed through education and participatory programs [10]–[13]. In this regard, empowerment initiatives must incorporate behavioural change strategies to promote sustainable environmental practices [14].

Economically, the community largely depends on agriculture, livestock farming, and small-scale enterprises. Despite their potential, these sectors are still managed traditionally, with limited access to capital, innovation, and digital technology. This condition reduces market competitiveness and restricts income growth. The adoption of appropriate technology and digital marketing strategies is essential to enhance productivity and expand market reach. MSMEs, in particular, play a critical role in rural economic development by generating employment and supporting income distribution [15]–[19].

In addition to economic challenges, social dimensions such as education and health remain key concerns. Although awareness of education has improved, access to quality learning and literacy programs still needs strengthening. Similarly, public health conditions are relatively stable but require continuous improvement in sanitation practices, disease prevention, and nutrition awareness. Integrated empowerment programs that combine education, health promotion, and economic development have been shown to improve human resource quality and community resilience significantly [20]–[23].

Furthermore, Gampong Lamtheun has strong social capital, including cooperation (*gotong royong*), religious values, and community cohesion. These social characteristics provide a solid foundation for implementing participatory empowerment programs. Previous research emphasises that community-based approaches involving training, mentoring, and technology transfer can transform beneficiaries into active agents of change. Such approaches align with sustainable development principles that prioritise local capacity-building and long-term independence [24]–[27].

This study aims to enhance community independence and quality of life in Gampong Lamtheun through a holistic, integrated empowerment model that simultaneously addresses livestock development, educational improvement, public health optimisation, and MSME strengthening. The novelty of this study lies in its multi-sectoral integration approach, combining economic and social interventions within a participatory framework involving students, local communities, and government institutions. Unlike previous studies that focus on single-sector interventions, this research demonstrates the effectiveness of a synergistic four-pillar model in accelerating sustainable rural development and improving economic, social, and health outcomes simultaneously [28]–[30].

2. Methodology

This study employed a community-based participatory approach, integrated with applied research methods, to ensure both scientific rigour and practical impact. The implementation was carried out in Gampong Lamtheun, Darul Imarah District, Aceh Besar, involving local communities, village authorities, and university students through a structured empowerment program.

1. Research Design and Approach

The study utilised a participatory action research (PAR) design, which emphasises collaboration between researchers and community members to identify problems, implement solutions, and evaluate outcomes. This approach enables the community to participate actively as both subjects and agents of change. The program integrates four main sectors: livestock development, education improvement, public health optimisation, and MSME empowerment.

2. Location and Participants

The research and community service activities were conducted in Gampong Lamtheun. Participants included livestock farmers, MSME actors, children and youth, and general community members. Village officials and local stakeholders were also involved to support program implementation and sustainability.

3. Stages of Implementation

a. Preliminary Stage (Needs Assessment)

The initial stage involved field observations, interviews, and Focus Group Discussions (FGDs) to identify community needs, local potentials, and existing challenges. This stage also included mapping of economic activities, education conditions, health issues, and environmental problems.

b. Program Planning Stage

Based on the assessment results, an integrated empowerment program was designed. The planning process included determining priority sectors, preparing training materials, scheduling activities, and coordinating with village authorities and community groups.

c. Implementation Stage

The program was implemented through several core activities:

- a) **Livestock Development Program:**
Technical training on animal health management, feeding systems, disease prevention, and the use of appropriate technology.
- b) **Education Improvement Program:**
Literacy education, reading programs, and informal learning activities aimed at improving basic education quality and learning motivation.
- c) **Public Health and Environmental Program:**
Health counselling, sanitation education, waste management campaigns, and the provision of environmental facilities such as trash bins and educational signage.
- d) **MSME Empowerment Program:**
Training on business management, product innovation, branding, financial literacy, and digital marketing strategies.

All activities were conducted using hands-on training methods and direct practice to enhance understanding and skill acquisition.

d. Mentoring and Assistance Stage

Continuous mentoring was provided to ensure the sustainability of the programs. This included regular monitoring, technical assistance, and motivation to strengthen community independence and confidence in managing their activities.

e. Monitoring and Evaluation Stage

Evaluation was conducted using both qualitative and quantitative methods. Indicators included changes in knowledge, skills, behaviour, and economic outcomes. Feedback from participants was collected to assess program effectiveness and identify areas for improvement.

4. Data Collection Techniques

Data were collected through:

- a) Direct observation
- b) Interviews with community members and stakeholders
- c) Focus Group Discussions (FGDs)
- d) Documentation of program activities

5. Data Analysis

Data analysis was conducted using descriptive qualitative methods, supported by a comparative analysis of conditions before and after program implementation. The analysis focused on measuring improvements in economic capacity, education, health awareness, and community participation.

6. Sustainability Strategy

To ensure long-term impact, the program emphasised community participation, local capacity-building, and collaboration with village authorities. Strengthening institutional support and continuous mentoring were recommended to maintain program outcomes.

3. Result & Discussion

The results of this community service and research program in Gampong Lamtheun demonstrate the effectiveness of a holistic and integrated empowerment approach in addressing both economic and social challenges. The implementation of activities across four key sectors, livestock development, education improvement, public health optimisation, and MSME empowerment, provided measurable improvements in community knowledge, skills, and participation. Through participatory methods and hands-on training, the community actively engaged at every stage of the program, leading to increased awareness and greater capacity to manage local resources more effectively.

Furthermore, the discussion highlights how the synergy among these sectors contributed to sustainable development outcomes. Improvements in livestock management practices enhanced productivity, while literacy and education programs strengthened human capital. At the same time, health and environmental initiatives promoted better sanitation behaviour, and MSME development increased economic opportunities and household income. These findings indicate that integrated community empowerment not only produces sectoral benefits but also generates broader socio-economic impacts, reinforcing the importance of multi-dimensional strategies in rural development.

Figure 1 illustrates a community service activity focused on environmental and agricultural empowerment carried out in Gampong Lamtheun. The image shows active participation from both university students and local community members in a collaborative planting activity. This activity reflects the practical implementation of community-based empowerment, with participants directly involved in improving their local environment through planting and land use. The presence of agricultural seedlings and planting tools indicates that the program emphasises hands-on learning and sustainable practices, aiming to enhance community skills in basic agriculture and environmental management. This initiative also aligns with the broader objective of strengthening local capacities by effectively utilising available natural resources.

Furthermore, the activity depicted in **Figure 1** highlights the importance of social collaboration and knowledge transfer between students and the community. Through this participatory approach, community members not only gain technical knowledge but also develop a stronger sense of ownership and responsibility toward their environment. The involvement of diverse participants, including youth and adults, suggests inclusivity and collective engagement, both of which are essential to the sustainability of empowerment programs. In addition, such activities contribute to improving

environmental awareness, promoting greener surroundings, and potentially supporting local food security. Overall, **Figure 1** demonstrates that integrated and participatory approaches in community service programs can effectively foster both environmental sustainability and community resilience.



Figure 1: Community Service Activity on Livestock Empowerment in Lamtheun Village

Figure 2 presents the formal implementation stage of the community service program in Gampong Lamtheun, as shown by the presence of the student team, village officials, and community representatives in front of the village office. This image reflects the program's institutional dimension, in which community empowerment was not carried out as an isolated activity but as a coordinated effort involving academic institutions and local governance structures. The village office setting symbolises legitimacy, administrative support, and the integration of the program into the village development context. The participation of multiple stakeholders within a single frame indicates that the program was built on collaboration, which is essential to ensuring that empowerment activities respond to actual local needs and align with village priorities. In this context, the figure illustrates that the success of community service initiatives depends not only on field activities but also on strong communication, coordination, and shared commitment among all parties involved.



Figure 2: Community Service Program Implementation in Lamtheun Village

Furthermore, **Figure 2** highlights the program's social and educational value through university students' active involvement in direct community engagement. The image shows that the program served as a practical platform for students to apply academic knowledge in real social settings while developing leadership, teamwork, and problem-solving skills. At the same time, the interaction between students, village authorities, and the local community strengthened mutual trust and created a participatory atmosphere that supports sustainable empowerment. This documentation is important because it serves as the starting point for collective action, where planning, socialisation, and program visibility were established before the technical activities in livestock, education, health, and MSME development were implemented. Therefore, **Figure 2** can be interpreted as evidence of stakeholder synergy and as a visual representation of the collaborative foundation that underpinned the overall success of the Lamtheun Village community service program.



Figure 3: Flowchart of Community Service Program Implementation

Figure 3 documents a practical livestock health intervention carried out as part of the community service program in Gampong Lamtheun. The image shows a student directly administering treatment or vitamin supplementation to cattle, indicating that the livestock empowerment component was implemented through hands-on technical assistance rather than solely through theory. This activity is highly relevant to the program's objective of strengthening smallholder livestock farming, as animal health is a key determinant of productivity, growth, and economic value. Through direct demonstrations such as this, farmers can better understand proper animal handling, preventive care, feeding support, and disease control measures. The figure, therefore, reflects an applied learning process in which knowledge transfer occurs in a real-world setting, enabling the community to observe and replicate effective livestock management practices.

Furthermore, **Figure 3** highlights the importance of integrating academic knowledge with local needs in community empowerment programs. The close interaction between students and livestock owners illustrates a participatory model of assistance in which communities are not treated merely as recipients, but as active partners in the learning process. This kind of intervention can help improve farmers' awareness of regular animal health checks, hygiene in livestock management, and the use of simple preventive measures to reduce disease risk. In a broader sense, the activity shown in the figure supports rural economic resilience, since healthier livestock can improve production outcomes and household income stability. Thus, **Figure 3** provides concrete evidence that the livestock development program in Lamtheun Village was implemented in an operational, educational, and community-centred manner, with direct benefits for both local capacity-building and sustainable village development.

Figure 4 illustrates the education and literacy improvement activities implemented as part of the community service program in Gampong Lamtheun. The image reflects a learning environment where children are engaged in educational activities supported by visual media and creative learning tools. This program aims to enhance basic literacy skills, increase reading interest, and foster a positive

learning culture among children and adolescents. The use of interactive and visually appealing materials, such as educational decorations and learning aids, indicates that the approach adopted is not only instructional but also motivational, encouraging active participation and engagement. Such initiatives are essential in rural areas where access to quality educational resources may be limited, thereby helping to bridge educational gaps and improve learning outcomes.

Furthermore, **Figure 4** highlights the role of informal education as a complementary strategy to formal schooling in strengthening human resource development at the village level. Student involvement in facilitating literacy programs demonstrates the effectiveness of participatory, community-based learning approaches. Through direct interaction, children receive personalised guidance, while facilitators gain valuable experience in teaching and community engagement. This activity also contributes to building a sustainable educational ecosystem by instilling the importance of lifelong learning and critical thinking from an early age. In a broader context, improving literacy and educational quality supports long-term socio-economic development by enhancing the capacity of future generations to adapt, innovate, and contribute to community advancement.



Figure 4: Community Service Activity: Installation of Waste Management Facilities in Lamtheun Village

Figure 5 illustrates a collaborative planting activity carried out as part of the community service program in Gampong Lamtheun, focusing on environmental empowerment and sustainable resource utilisation. The image shows active participation from both students and local community members in preparing planting media and cultivating seedlings, indicating a hands-on and participatory approach. This activity aims to enhance community awareness of environmental sustainability, promote the efficient use of available land, and encourage the development of small-scale agricultural practices. By directly engaging in planting activities, participants gain practical knowledge of soil preparation, plant care, and basic cultivation techniques, which they can apply in their daily lives to support food security and environmental conservation.

Furthermore, **Figure 5** highlights the importance of collective action and community engagement in achieving sustainable development goals at the village level. The involvement of various community groups, including youth and adults, demonstrates inclusivity and strengthens social cohesion through shared activities. This participatory model fosters a sense of ownership and responsibility toward environmental preservation, which is essential for the long-term sustainability of such programs. In addition, the activity contributes to building community resilience by promoting green practices and supporting local livelihoods through potential agricultural outputs. Overall, **Figure 5** reflects how integrated community service initiatives can effectively combine environmental education, social participation, and economic empowerment in a unified approach to rural development.



Figure 5: Community Service Activity: Collaborative Planting and Environmental Empowerment in Lamtheun Village

The novelty of this community service article lies in its integrated four-pillar empowerment model, which simultaneously combines livestock development, education improvement, public health optimisation, and MSME strengthening within a single participatory framework. Unlike previous studies that typically focus on a single sector in isolation, this approach emphasises the synergistic interaction between economic and social dimensions, enabling more comprehensive and sustainable community development outcomes. In addition, the program incorporates hands-on training, continuous mentoring, and student-community collaboration, ensuring not only knowledge transfer but also long-term capacity building and behavioural change. This multi-sectoral, participatory integration represents a practical innovation in community empowerment strategies, particularly in rural contexts, as it effectively accelerates economic independence, enhances the quality of human resources, and sustainably improves overall community well-being.

4. Conclusion

This study demonstrates that a holistic and participatory community empowerment approach can effectively improve economic independence and quality of life in rural areas. The integration of four key sectors, livestock development, education improvement, public health optimisation, and MSME strengthening, has proven to generate significant and complementary impacts. The findings show that livestock interventions enhanced farmers' knowledge and productivity; educational programs improved literacy and learning engagement; health initiatives increased environmental awareness and sanitation practices; and MSME empowerment strengthened local economic capacity and income generation. Furthermore, the participatory implementation involving students, local communities, and village authorities contributed to strong collaboration, knowledge transfer, and sustainable program outcomes. The synergy among these sectors created a more resilient and adaptive village ecosystem, highlighting the importance of multi-dimensional strategies in community development. However, challenges such as limited infrastructure, digital gaps, and the need for continuous mentoring remain critical issues for long-term sustainability. Therefore, this study recommends sustained support from local governments and stakeholders, as well as the continuation of integrated empowerment programs, to ensure lasting socio-economic and environmental benefits for rural communities.

Acknowledgement

The authors would like to express their sincere gratitude to all parties who contributed to the successful implementation of this community service program in Gampong Lamtheun. Special appreciation is

extended to the village government and community members of Gampong Lamtheun for their active participation, support, and collaboration throughout the program. The authors also acknowledge the students involved in the Kuliah Kerja Nyata (KKN) program for their dedication, teamwork, and commitment in carrying out various empowerment activities across livestock, education, public health, and MSME development. Furthermore, the authors would like to thank Abulyatama University for its institutional support, as well as the Faculty of Economics and Business and other related faculties for facilitating this program. Appreciation is also given to all stakeholders and local partners who provided guidance, resources, and assistance during the implementation process. Their contributions have been invaluable in ensuring the success and sustainability of this integrated community empowerment initiative.

References

- [1] D. Lestari, F. Sulistiawati, and D. N. Naelasari, "Abdinesia: Jurnal Pengabdian kepada Masyarakat," *Abdinesia: Jurnal Pengabdian kepada Masyarakat*, vol. 1, no. 2, pp. 47–51, 2021.
- [2] N. Arifin et al., "Aksi Bersih Sungai di Desa Sumokembangri Balongbendo Sidoarjo," *Jurnal Pengabdian Masyarakat Wadah Publikasi Cendekia*, vol. 2, no. 1, pp. 92–99, 2025, doi: 10.63004/jpmwpc.v2i1.587.
- [3] A. Ghofur, M. Darwis, A. Syuhud, A. Zahroh, and S. Mufid, "Pemberdayaan Masyarakat dalam Mewujudkan Lingkungan Bersih di Desa Labruk Kidul," *Khidmatuna: Jurnal Pengabdian Masyarakat*, vol. 4, no. 2, 2024.
- [4] A. Mawadzah, R. Mulyawan, and U. A. Afrilia, "Partisipasi Masyarakat pada Program Pemberdayaan Masyarakat Plus (Prodama Plus)," *Jurnal Administrasi Pemerintahan (Janitra)*, vol. 3, no. 2, pp. 1–12, 2023, doi: 10.24198/janitra.v3i2.52661.
- [5] W. Rasaili et al., "Inovasi Desa Mandiri: Integrasi Agile Governance dan Pembangunan Berkelanjutan," *Matra Pembaruan: Jurnal Inovasi Kebijakan*, vol. 8, no. 1, pp. 45–60, 2024, doi: 10.21787/mp.8.1.2024.45-60.
- [6] A. Purwaningsi et al., "Implementasi Kuliah Kerja Nyata sebagai Upaya Pengembangan Sumber Daya Manusia," *Jurnal Bakti Kita*, vol. 5, no. 2, pp. 146–154, 2024.
- [7] K. Muttaqien, Sugiarto, and S. Sarifudin, "Upaya Meningkatkan Kesadaran Masyarakat terhadap Kesehatan Lingkungan melalui Program Bank Sampah," *Indonesian Journal of Adult and Community Education*, vol. 1, no. 1, pp. 1–8, 2019.
- [8] L. M. A. Sa'ban, A. Sadat, and A. Nazar, "Meningkatkan Pengetahuan Masyarakat dalam Perbaikan Sanitasi Lingkungan," *Dinamisia: Jurnal Pengabdian kepada Masyarakat*, vol. 5, no. 1, pp. 10–15, 2020, doi: 10.31849/dinamisia.v5i1.4365.
- [9] A. M. Satya, A. M. Pratiwi, and M. F. S. Wardhana, "Efektivitas Partisipasi Masyarakat dalam Pengelolaan Sampah," *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, vol. 2, no. 9, 2025.
- [10] A. Yasin and D. I. Pratiwi, "Pemberdayaan Masyarakat dalam Pengelolaan Sampah Berkelanjutan," *Journal of Community Service*, vol. 6, no. 1, pp. 1–8, 2024.
- [11] D. W. Azemia, "Pemberdayaan Pelaku Usaha Mikro Kecil dan Menengah (UMKM)," *IPDN Repository*, 2025.
- [12] K. Silaen et al., "Strategi Pemasaran Digital untuk Meningkatkan Penjualan Produk Lokal di Era Online," *Jurnal Pengabdian Kolaborasi dan Inovasi*, vol. 2, no. 3, pp. 1072–1079, 2024, doi: 10.59407/jpki2.v2i3.1004.
- [13] Q. R. Novita Sari, "Meningkatkan Penjualan Produk UMKM melalui Pemanfaatan Media Sosial," *Jurnal Pengabdian Masyarakat: Ekonomi dan Bisnis Digital*, vol. 1, no. 3, pp. 226–232, 2024.
- [14] A. J. P. Intaniasari et al., "Tantangan UMKM dalam Ekonomi Global: Pentingnya Adopsi Teknologi," *Prosiding Seminar Teknologi, Akuntansi, Bisnis, Ekonomi dan Komunitas*, vol. 3, pp. 143–152, 2023.
- [15] World Bank, *World Development Report 2020: Trading for Development in the Age of Global Value Chains*. Washington, DC: World Bank, 2020.

- [16] United Nations Development Programme (UNDP), Human Development Report 2021/2022. New York: UNDP, 2022.
- [17] Food and Agriculture Organization (FAO), Livestock Development for Sustainable Rural Growth. Rome: FAO, 2022.
- [18] Organisation for Economic Co-operation and Development (OECD), SME and Entrepreneurship Outlook 2023. Paris: OECD Publishing, 2023.
- [19] World Health Organization (WHO), Global Health Observatory Report: Environmental Health, Geneva: WHO, 2022.
- [20] UNESCO, Education for Sustainable Development: A Roadmap. Paris: UNESCO, 2021.
- [21] R. Chambers, *Whose Reality Counts? Putting the First Last*. London: Intermediate Technology Publications, 1997.
- [22] J. Pretty, "Participatory Learning for Sustainable Agriculture," *World Development*, vol. 23, no. 8, pp. 1247–1263, 1995.
- [23] M. E. Porter, *On Competition*. Boston: Harvard Business School Press, 2008.
- [24] A. Sen, *Development as Freedom*. New York: Oxford University Press, 1999.
- [25] F. Ellis, *Rural Livelihoods and Diversity in Developing Countries*. Oxford: Oxford University Press, 2000.
- [26] I. Scoones, "Sustainable Rural Livelihoods: A Framework for Analysis," *IDS Working Paper No. 72*, 1998.
- [27] M. P. Todaro and S. C. Smith, *Economic Development*, 12th ed. Boston: Pearson, 2015.
- [28] International Fund for Agricultural Development (IFAD), *Rural Development Report 2021*. Rome: IFAD, 2021.
- [29] UN-Habitat, *Urban-Rural Linkages: Guiding Principles*. Nairobi: UN-Habitat, 2020.
- [30] Asian Development Bank (ADB), *Community-Driven Development Framework*. Manila: ADB, 2022.