Dinamika Sosial: Jurnal Pengabdian Masyarakat dan Transformasi Kesejahteraan
Volume 2, Number 2, June 2025
e-ISSN: 3047-034X; p-ISSN: 3047-0315, Pages. 154-163
DOI: https://doi.org/10.62951/dinsos.v2i2.1650
Available online at: https://pkm.lpkd.or.id/index.php/DinSos

Participatory Service Model for Strengthening Sustainable Poultry Farming in the Bontang Lestari Area, Bontang Regency, East Kalimantan

Dinar Anindyasari[1], Dede Aprylasari[2], Putri Daulika[3]
[1-2]Department of Animal Science, Faculty of Agriculture, Mulawarman University, Indonesia
[3]Departemen of Agribusiness, Faculty of Agriculture, Mulawarman University, Indonesia

Article History:
Received: May 15, 2025;
Revised: June 04, 2025;
Accepted: June 18, 2025;
Published: June 21, 2025

Keywords: Community Poultry, Community Service, Empowerment of Livestock Farmers, Livestock.

Abstract: This community service activity aims to empower small-scale poultry farmers in Bontang Lestari Village, Bontang City, East Kalimantan, through increasing technical, managerial, and institutional capacity. The implementation method includes identifying the potential problems of farmers, providing technical training based on local needs, and mentoring the formation of farmer cooperatives as a collective economic forum. A total of 30 farmers were actively involved in the entire series of activities. The activity results showed an increase in skills in making alternative feed, implementing biosecurity, and simple business records. Positive social impacts were also seen from the growth of community participation in group activities and joint marketing initiatives. This program shows that a participatory, potential-based, and collaborative approach can effectively strengthen the sustainability of community poultry farming businesses. This success is the basis for developing similar empowerment models in other areas with comparable characteristics.

1. INTRODUCTION

Poultry farming is one of the essential sub-sectors in national agricultural development, which contributes to meeting people's food needs and creating jobs. In the context of the people's economy, household-scale poultry farming is not only the primary source of animal protein but also supports family income and economic resilience, especially in suburban and rural areas. Data from the Ministry of Agriculture of the Republic of Indonesia (2023) shows that the livestock sub-sector contributes around 16.5% to the agricultural sector's Gross Domestic Product (GDP), with poultry commodities such as chickens and ducks being the backbone of this contribution. Market demand for poultry products continues to increase, in line with population growth, increasing community income, and shifting consumption patterns towards nutritious and quality food.

Bontang City in East Kalimantan Province is an area with rapid industrial growth, but it also holds potential for local agribusiness that has not been optimally developed, including the poultry farming sub-sector. One area that shows enthusiasm for community livestock farming activities is Bontang Lestari Village. This area has several geographical and environmental advantages, such as large yard areas, supportive tropical climate conditions, adequate road and electricity access, and proximity to local markets and industrial areas

(Triyani et al., 2022). This makes Bontang Lestari a strategic area for developing community-based poultry farming for native chickens, laying hens, and ducks.

However, adequate production and managerial capacity have not matched this great potential. Initial exploration results show that farmers in this region still face various fundamental obstacles, including limited working capital, high dependence on commercial feed, low levels of biosecurity adoption, and weak access to technical training and economic institutions. Most farmers do not yet have systematic business records, are not yet part of strong institutions, and are not yet connected to a broader market chain. This classic problem can potentially hinder the development of the poultry sector in the long term if not immediately addressed with the right approach. In facing these challenges, intervention is needed through community service programs that are not only educational but also applicable and oriented towards sustainably increasing community capacity. This service empowers farmers through a participatory approach, prioritizing active community involvement (Aprylasari & Azizah, 2025). This service's primary focus is increasing knowledge and technical skills in poultry farming, strengthening livestock group institutions, and facilitating the formation of community-based marketing cooperatives. Thus, this activity is not only a means of technology transfer but also a means of socio-economic transformation of livestock farming communities towards more independent, efficient, and competitive businesses.

Through community service activities that collaborate with community poultry farmers who are selected purposively based on their level of seriousness and involvement in group activities. Activities are carried out in stages, from identifying potential problems and technical training, including cage management, making local feed, and implementing biosecurity to institutional assistance and facilitating access to microfinance institutions. Evaluations are carried out periodically to measure competency achievements and changes in business behavior. This strategy is expected to increase the productivity of poultry farming businesses, foster new agribusiness entrepreneurs, and create a cooperative-based collective marketing network (Sukmawati et al., 2022). With an approach that is based on local potential and participatory and directly touches on the real problems of farmers, this community service is expected to significantly contribute to the transformation of sustainable community livestock farming in Bontang Lestari Village. In addition, this intervention model is also expected to be replicated in other areas with similar characteristics as part of a decentralized and community-based livestock development strategy.

2. DEVOTION METHOD

This community service activity is carried out with a participatory approach and is based on local potential that combines simple qualitative and quantitative descriptive methods. The implementation is carried out for three months, from January to March 2026, in Bontang Lestari Village, Bontang City, East Kalimantan. The program targets 30 community poultry farmers who are selected using stratified random sampling based on the scale of small and medium businesses. The stages of community service begin with identifying potential problems through field surveys, in-depth interviews with farmers, and observing the physical condition of the cage and business management. Furthermore, a technical training program is formulated based on farmers' needs, including aspects of livestock business management, biosecurity, and local feed formulation.

Core activities include integrated training in a classical way and direct practice in the field, accompanied by ongoing technical assistance. In addition, the formation of group-based livestock cooperatives was also facilitated to strengthen institutions and access collective financing. During the activity, the implementation team conducted pre-tests and post-tests to evaluate the increase in participant capacity and monitor changes in farmers' technical behavior in the application of biosecurity and cage management. Activities were validated through field documentation, daily reports from the facilitator team, and reflective discussions with livestock group leaders. The results of all these stages were used as the basis for formulating strategic recommendations that were applicable, adaptive, and based on local potential for the development of sustainable poultry farming in Bontang Lestari.

3. RESULTS AND DISCUSSION

Identification of Potential and Problems of Poultry Farmers

Identifying potential problems is a crucial initial step in empowering poultry farmers in Bontang Lestari Village. Through a participatory approach that includes semi-structured interviews, focus group discussions (FGDs), direct observation of the cage location, and distribution of questionnaires to 30 farmers, an initial mapping was obtained that describes the actual conditions, potential, and challenges faced by community poultry farming business actors. Most farmers are included in the micro-business category, with a livestock ownership scale of between 30 and 250 birds. Their business system is informal and family-based, utilizing the yard as a location for the cage with an average land area of around 400-500 square meters. The type of livestock most widely raised is native chickens (56.7%), followed by laying

hens (26.7%) and local ducks (16.6%). This shows the diversity of cultivation, although the production scale is still limited.

Regarding potential, the Bontang Lestari Village area has supporting geographical and ecological advantages, such as flat land conditions, sufficient groundwater availability, and a relatively stable tropical climate throughout the year. Basic infrastructure, such as electricity and local roads, are also evenly available in most areas. Social potential also includes a strong culture of cooperation and a collective spirit in the livestock farming community, which can be important social capital for institutional development. However, this potential has not been optimally utilized due to various fundamental problems. The most dominant problem is the high cost of production, mainly due to dependence on commercial feed, whose prices fluctuate (Karimuna et al., 2020). Most livestock farmers cannot produce alternative feed independently due to limited knowledge and technology. In addition, livestock health management is also a serious issue; only a small number of farmers implement routine vaccinations, while others still rely on traditional medicine or do not have knowledge of the vaccination schedule (Permatasari et al., 2020).

The application of biosecurity principles is also still very minimal. Many cages do not have a human and equipment traffic restriction system, no routine disinfection schedule and the cage sanitation system is inadequate. This makes poultry susceptible to infectious diseases such as ND (Newcastle Disease), CRD (Chronic Respiratory Disease), and digestive tract diseases. Another weakness lies in the lack of business records. Most farmers do not have books to record expenses and income, so they cannot calculate efficiency and profits accurately. This worsens their ability to plan long-term business development.

Regarding institutions, none of the 30 respondents were members of a farmer cooperative or had regular access to technical assistance from extension workers. The lack of formation of a collective business entity has resulted in weak bargaining power regarding feed and product selling prices and limited access to financing from formal financial institutions. When asked about obstacles in accessing People's Business Credit (KUR) or capital loans, most said they did not have business legality and did not understand the application procedure.

Overall, the identification results show that despite the enormous physical, ecological, and social potential, the development of the poultry farming sector in Bontang Lestari is still constrained by non-physical factors such as low human resource capacity, the absence of strong institutional support, and limited access to technology and markets (Nursan & Septiadi, 2020). Therefore, interventions based on increasing technical capacity, strengthening institutions, and

providing supporting facilities are critical to encouraging the sustainability of small-scale poultry farming businesses in this area.

Technical Training and Field Assistance

As a follow-up to the results of identifying problems faced by poultry farmers in Bontang Lestari Village, this community service program designed and implemented a series of technical training that was applicable and based on local needs; the main objective of this training was to improve farmers' technical and managerial capacity, introduce simple technology that is easy to apply, and form more efficient and sustainability-oriented business behavior (Suhardi et al., 2025). All training activities were performed in stages, complemented by field practice sessions and direct assistance in each participant's cage. The first training package focused on making alternative feed based on local ingredients as a solution to the high dependence of farmers on expensive and unstable commercial feed. In this session, participants were introduced to the technique of fermenting rice bran using tempeh yeast and EM4, the use of moringa leaves as a source of local vegetable protein, and how to mix household kitchen waste with natural probiotics such as fermented rice washing water. Direct practice was carried out using a closed bucket and a room-temperature incubation system. The assistance results showed that 19 out of 30 farmers had been able to produce their feed, with a reduction in feed costs of between 20–25%. In addition to reducing costs, this innovation also increases the independence of farmers and strengthens local resource-based production systems.

The second training focused on applying biosecurity principles to prevent the spread of poultry diseases, which have been the main obstacles to the sustainability of livestock businesses. Training materials included the importance of cage sanitation, disinfection schedules and techniques, managing human and equipment traffic into the cage, and a standard vaccination system. Participants were trained to create a weekly sanitation schedule and recognize the symptoms of common diseases such as Newcastle Disease (ND), Avian Influenza (AI), and respiratory and digestive tract diseases. In practice, 22 farmers began to routinely spray cages with natural disinfectants made from lemongrass and vinegar, and 14 farmers followed the vaccination schedule recommended by the extension workers. Applying this simple biosecurity has been proven to reduce the incidence of mild poultry diseases and improve the general cleanliness of the cage environment. The third training was directed at strengthening farmers' managerial skills by introducing fundamental concepts of business bookkeeping and recording production activities. The materials presented included making daily income-expenditure records, recording the amount of feed and production results (eggs

or chicken weight), and simple calculations for profit-loss analysis. This session is important because the majority of farmers have never recorded anything at all. After the training, 21 out of 30 farmers kept daily logs, although still in a simple form. In further mentoring, several participants even started compiling monthly recaps to monitor the performance of their livestock businesses.

The effectiveness of all training was evaluated through pre-tests and post-tests with materials covering technical understanding, biosecurity, and business management. The evaluation results showed a significant increase, with an average pre-test score of 51 increasing to 79 in the post-test, or an increase of 54.9%. This indicates that the participatory and hands-on practice-based training approach has proven effective in increasing knowledge and changing farmer behavior. The success of the training was also supported by interactive learning methods, the use of visual aids and demonstrations in the field, and follow-up in the form of post-training visits and monitoring. Overall, this technical training and field assistance not only improved the skills of farmers but also built their confidence to innovate and manage their businesses more independently (Aprylasari et al., 2025). The results of this process are an important foundation in encouraging the sustainability of community-based poultry farming businesses and strengthening local capacity as the central pillar of community-based economic development.

Strengthening Institutions and Access to Financing

Efforts to strengthen the capacity of livestock farmers will not be sustainable without institutional transformation. Therefore, one of the strategic focuses of this service is to facilitate the formation of a poultry farmer organization. Through a series of village deliberations and technical consultations, the "Lestari Unggas Mandiri" cooperative was formed with 25 active livestock farmers as members. This cooperative is focused on collectively purchasing feed, providing vaccines, and a joint marketing unit. The initial step of this cooperative was to purchase 1,000 kg of corn feed and concentrate, which was then distributed to members at a price 10% cheaper than the market price. This is a concrete example of the economic benefits of collective institutions (Widagdo et al., 2024). On the financing side, the cooperative also facilitates the processing of livestock business permits (SITU) and Business Certificates (SKU), which are needed to access People's Business Credit (KUR). A total of 8 livestock farmers have successfully applied for KUR worth IDR 5 million to IDR 15 million each, which was used to buy super village chicken seeds (KUB), repair cages, and buy disinfectant sprayers.

This process shows that livestock breeders can access previously inaccessible resources through legal and organized institutional frameworks.

Social Impact, Community Participation, and Sustainability Indications

Implementing the community service program not only resulted in changes in the technical aspects of cultivation and institutional strengthening but also significantly impacted the social dynamics and participation of the poultry farming community in Bontang Lestari Village. One of the most apparent changes is the increased frequency and quality of social interactions between farmers. Before the program took place, most farmers worked individually without intensive communication. However, through training activities, focus group discussions (FGDs), and joint community service, a collective awareness grew that a livestock business's success depends on individual abilities and the strength of social networks. Informal discussion forums routinely held weekly at group posts have become a strategic space for exchanging information, solving everyday problems, and formulating future steps in a participatory manner. In addition, community service in cleaning cages and dividing collective feed procurement tasks strengthens solidarity and a sense of shared responsibility. The residents' initiative to form a WhatsApp group for poultry farmers, which now consists of almost all training participants, also accelerates the dissemination of information about market prices, vaccination schedules, and news about poultry diseases in the surrounding environment. This dynamic marks an increase in social cohesion and the formation of a community ecosystem that supports each other and is adaptive to change.

Another noteworthy aspect is the emergence of active participation from farmers in the business regeneration process. Several senior farmers volunteered to become mentors for novice farmers, helping with cage design, seed selection, and independent feeding techniques. This shows that the value of cooperation is alive in physical work together and in the form of horizontal transfer of knowledge and skills (Aprylasari et al., 2024). This program has also encouraged groups to start thinking long-term. Furthermore, some farmers have shown high entrepreneurial initiative by selling their products online through social media and local platforms. This expands the market reach and shows that farmers have begun to understand the importance of innovation and adaptation in facing competition and the dynamics of the modern market (Azizah et al., 2024). The participatory approach used in this community service program—from joint problem mapping and training based on real needs to open and collaborative evaluation—has built critical awareness that change does not have to come from outside but can start from local strengths themselves.

Indicators of program sustainability are also evident from the collective commitment to maintain post-program activities. For example, some cooperative members agreed to make regular contributions as the cooperative's revolving capital, and some offered additional land to be used as joint demonstration plots. These community service activities ultimately resulted in technical and economic transformation and laid a strong social and institutional foundation for long-term sustainability (Aprylasari et al., 2024). The success of this approach emphasizes the importance of building bottom-up initiatives oriented towards local potential and strengthening social solidarity as an integral part of sustainable community poultry farming development.

4. CONCLUSION AND SUGGESTIONS

This community service program has successfully comprehensively identified the potential, problems, and actual needs of small-scale poultry farmers in Bontang Lestari Village. Empowerment activities through technical training, field assistance, and institutional strengthening have shown positive results in increasing farmer knowledge and skills, production cost efficiency, and forming farmer cooperatives as a collective forum. This program's participatory and local potential-based approach has encouraged active farmer involvement, strengthened community social cohesion, and opened up access to better financing and marketing. The initiative and enthusiasm of farmers in continuing the program independently are strong indications that the interventions carried out are not only temporary but also form a sustainable foundation for developing poultry farming businesses at the local level.

The following suggestions are proposed to enhance the sustainability and impact of poultry farmer empowerment programs. Local governments are advised to expand support for poultry farmer groups through affirmative policies, such as subsidies for local feed ingredients, biosecurity incentives, and facilitation of scheduled and needs-based advanced technical training. Furthermore, established farmer cooperatives must continue to be assisted in developing into professional village economic institutions through cooperative management training, business planning, and financial literacy. Strategic partnerships between farmers and the private sector—such as food stalls, catering services, and local digital marketing platforms—should also be actively built to expand market access and increase the added value of poultry products. Higher education institutions are expected to sustain their role in providing long-term assistance through community service activities, applied research, and the development of simple, adaptive, and low-cost technologies suitable for smallholder farmers.

Finally, continuous monitoring and evaluation should be conducted periodically to measure the real impact of the program and to refine the empowerment strategies in accordance with the evolving needs of the farmer community.

REFERENCES

Aprylasari, D., & Azizah, S. (2025). Coastal tourism's impact on local livestock farming at Bilik Sijile Beach, Baluran National Park. *Buletin Peternakan, 49*(1), 366–375.

Aprylasari, D., Azizah, S., & Pribadi, T. A. (2024). Group dynamics among beef cattle farmers in Merak Hamlet, Sumberwaru Village, Situbondo Regency. *Agriwar Journal*, *4*(1), 25–33.

Aprylasari, D., Haris, M. I., Wibowo, A., Anjani, F. M., Qamara, C., & Suhardi, S. (2024). Building resilient rural livestock systems: Capacity enhancement and sustainable growth in Karang Tunggal, East Kalimantan. *ASPIRASI: Publikasi Hasil Pengabdian dan Kegiatan Masyarakat, 2*(5), 228–238.

Aprylasari, D., Nurmasytha, A., & Wibowo, A. (2025). Peningkatan kapasitas petani melalui pelatihan pembuatan pupuk kompos di Agrobetapus Farm, Lempake: Solusi berkelanjutan untuk pertanian dan lingkungan. *Jurnal Widya Laksmi: Jurnal Pengabdian Kepada Masyarakat, 5*(1), 237–242.

Azizah, S., Aprylasari, D., Djunaidi, I. H., Rachmawati, A., & Indrati, R. (2024). Empowering poultry farmers through training on preparing feed rations based on local raw materials in Mojokerto Regency. *Jurnal Pengabdian Kolaborasi dan Inovasi IPTEKS, 2*(4), 1264–1273.

Karimuna, S. R., Bananiek, S., Syafiuddin, S., & Jumiati, W. A. (2020). Potensi pengembangan komoditas peternakan di Sulawesi Tenggara. *Jurnal Ilmu dan Teknologi Peternakan Tropis, 7*(2), 110–118.

Nursan, M., & Septiadi, D. (2020). Penentuan prioritas komoditas unggulan peternakan di Kabupaten Sumbawa Barat. *Jurnal Agribisnis dan Ilmu Sosial Ekonomi Pertanian, 5*(1), 29–34.

Permatasari, D. K., Syamsuhaidi, S., Erwan, E., Wiryawan, W., Sumiati, S., & Rozy, T. (2020). Pembimbingan usaha beternak unggas dan pengolahan limbah peternakan unggas pada masyarakat di Desa Wakan Kecamatan Jerowaru Lombok Timur. *Jurnal Gema Ngabdi, 2*(2), 178–185.

Suhardi, S., Aprylasari, D., & Wibowo, A. (2025). Improving community literacy in environmental management through community-based education in Muara Kaman District, Kutai Kartanegara District, East Kalimantan Provision. *Karunia: Jurnal Hasil Pengabdian Masyarakat Indonesia, 4*(1), 67–81.

Sukmawati, S., Asmawati, A., Palisuri, P., & Abubakar, H. (2022). Pemberdayaan potensi desa berbasis agribisnis peternakan unggas. In *Seminar Nasional Hasil Penelitian & Pengabdian Kepada Masyarakat (SNP2M)* (Vol. 7, pp. 25–30).

Triyani, E., Hudjimartsu, S. A., & Primasari, D. (2022). Spasial clustering potensi peternakan unggas dengan metode K-means berbasis webgis. *INFOTECH Journal, 8*(2), 13–21.

Widagdo, J., Roosdhani, M. R., & Miftahunnajah, N. A. P. (2024). Optimalisasi e-commerce untuk meningkatkan ekonomi peternak unggas. *Journal of Community Service (JCOS), 2*(3), 68–74.