



FKH UNAIR Community Service: Technical Guidance for Handling Initial Community Service for Production Duck Maintenance in Palembang Village, Kanor District, Bojonegoro Regency

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Abstract

A community service technical guidance program conducted by lecturers and postgraduate students from the Faculty of Veterinary Medicine, Universitas Airlangga aimed to provide education on production duck farming in Palembang Village, Kanor District, Buongiorno Regency. The livestock distribution is relatively even, with high concentrations in districts such as Buongiorno, Margolyes, and Kanor, where small-scale farms dominate, supported by fertile land and strategic market access. Duck farming has started to gain attention as a superior local commodity due to the increasing demand for duck meat and eggs. This community service highlights an educational program that positions duck production as a local asset with high market value to improve community welfare and promote Palembang as a model village. The activity successfully increased participants' knowledge, proven through significant improvements in pre- and post-test scores across various duck farming indicators. This program aligns with Sustainable Development Goal 8 (Decent Work and Economic Growth) by empowering rural communities through skills development, sustainable production practices, and economic resilience.

Keywords: Duck; Community Empowerment; Farmer; Palembang Village; Rural Development; Decent Work and Economic Growth

1. Introduction

The livestock sector plays a strategic role in supporting food security and rural economic growth in Indonesia. In East Java Province, Buongiorno Regency is recognized for its agricultural productivity and livestock population, particularly poultry, including ducks (*Anas sp.*), which are widely farmed at the household level. According to recent statistics, the total livestock population in the region increased from 5,461,595 in 2023 to 5,875,886 in 2024, with poultry dominating the increase due to its high adaptability and productivity in rural ecosystems [1].

Duck farming is a promising agribusiness in Buongiorno, particularly in Palamon Village, Kanor District, due to its suitability for integrated farming systems. Ducks contribute to both meat and egg production, which are essential protein sources in Indonesian diets. The rising demand for duck eggs and processed products such as salted eggs has positioned duck farming as a potential local economic driver [2]. The region's fertile land, accessibility to water sources, and market connectivity further support the scalability of duck production.

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To support community-based livestock development, the Buongiorno government has launched flagship programs such as GAYATRI (Gerakan Ayam Peeler Mandiri), which promotes self-sufficiency in egg production by distributing livestock resources and technical guidance. In 2025, the program distributed 26,100 laying hens and associated resources to over 5,000 beneficiary families (KPM) through village-level partnerships [3,4]. This policy framework provides an enabling environment for expanding duck farming initiatives aligned with regional development goals.

As part of the Tri Dharma of Higher Education in Indonesia, which includes education, research, and community service, universities are expected to collaborate with local governments and rural communities to support sustainable development [5]. The Faculty of Veterinary Medicine, Universitas Airlangga (FKH UNAIR), through its postgraduate program and academic outreach, is committed to advancing community empowerment through applied technical guidance in animal production.

This study reports on the community service technical guidance conducted by FKH UNAIR in Palamon Village. The program aimed to improve the knowledge, skills, and self-reliance of underprivileged farmers in duck production management, focusing on sustainable practices and the introduction of natural, locally available feed and health supplements. This intervention is aligned with Sustainable Development Goal 8 (Decent Work and Economic Growth) by empowering rural communities through skills development, sustainable production practices, and economic resilience [6].

2. Materials and Methods

2.1. Location and Time of Implementation

The community service activity was conducted on January 19, 2026, in Palamon Village, located in Kanor District, Buongiorno Regency, East Java Province, Indonesia. This location was selected based on its high potential for duck farming, with a predominance of household-scale livestock systems supported by fertile agricultural land and accessible local markets. Palamon Village is among the targeted areas for livestock empowerment due to its inclusion in Buongiorno's community development and rural economic enhancement programs.

2.2. Participants and Selection Criteria

The program involved 20 underprivileged households, selected through coordination with the village administrative team and the Department of Animal Husbandry and Fisheries of Buongiorno. The criteria for participant selection included:

2.3. Residence in Palamon Village

2.3.1. Classification as economically vulnerable families.

- Willingness to engage in duck husbandry as a sustainable livelihood initiative.
- Availability of basic housing infrastructure for livestock (e.g., small backyard for duck pens).

2.4. Technical Guidance and Training Procedure

The activity was designed as a face-to-face participatory workshop, combining lectures, demonstrations, and discussions. The community service team consisted of lecturers and postgraduate students from the Faculty of Veterinary Medicine, Universitas Airlangga (FKH UNAIR). The program delivered technical guidance on duck maintenance, covering two main modules:

- Module 1: Housing and Infrastructure
 - Design and construction of low-cost duck pens.
 - Sanitation and biosecurity practices.
 - Management of bedding and use of natural materials like charcoal.
- Module 2: Duck Feeding, Health, and Adaptation
 - Nutritional management, including natural vitamin supplementation and use of brown sugar solutions for hydration.
 - Duck acclimatization strategies upon arrival.
 - Disease recognition, prevention, and herbal remedies (e.g., mango as a digestive aid).
 - Differentiation and handling of duck breeds.

Pre-test and post-test questionnaires were distributed to assess changes in knowledge, followed by a discussion session to clarify misconceptions and deepen participants' understanding. Visual aids and real-life demonstrations were employed to support material comprehension.

2.5. Duck Distribution

As part of the intervention, each of the 20 participating families received a starter pack of 17 ducks (15 females and 2 males), totaling 340 ducks. These ducks were sourced from a local hatchery certified by the Bojonegoro Regency Animal Husbandry and Fisheries Service. The ducks were selected based on:

- Health status (free from visible illness).
- Age (approximately 3 months).
- Active behavior and adaptive response upon pen introduction.
- The duck distribution was accompanied by hands-on mentoring on duck handling, adaptation periods, and feeding schedules.

2.6. Monitoring and Mentorship

Post-training follow-up was conducted through a combination of on-site visits and remote communication (e.g., WhatsApp groups, SMS, and phone calls) to monitor progress and provide troubleshooting support. Weekly check-ins were performed during the first month to evaluate:

- Duck behavior and adaptation.
- Feed acceptance.
- Disease symptoms (if any).
- Egg-laying onset (if applicable).

This mentorship approach aimed to ensure the sustainability of the intervention and build confidence among participants in managing their duck farming independently.

2.7. Ethical Considerations

This community service activity was conducted in accordance with the ethical standards of community-based research. Verbal consent was obtained from all participants after explaining the purpose, procedures, and intended outcomes of the intervention. No invasive procedures were performed on animals. The activity was registered and approved by the Faculty of Veterinary Medicine, Universitas Airlangga as part of its academic outreach and community service program.

3. Results and Discussion

This community service activity focused on technical guidance for duck farming, targeting 20 underprivileged families in Palamon Village, Kanor District, Buongiorno. Each family received a package of 17 ducks (15 females and 2 males) as starter livestock. The program was officially launched by the project coordinator, the village secretary, and the head of the Livestock and Fisheries Office, signaling multi-stakeholder involvement.

3.1. Pretest-Posttest Knowledge Assessment

The technical guidance program for duck farming successfully enhanced the community's knowledge in Palembang Village. This was demonstrated through a significant improvement in post-test scores compared to pre-test scores (Table 1). For instance, understanding about duck diseases improved from 10% to 90%, and knowledge about vitamin supplementation increased from 65% to 100%.

This result reflects the effectiveness of participatory learning methods, such as discussions and interactive lectures, in rural settings (Ali et al., 2021). The significant jump in scores across all ten indicators indicates that the community responded positively to structured guidance and could assimilate information quickly when delivered through localized, practical teaching formats (Goitom et al., 2023).

Table 1 Understanding Before and After Technical Guidance on Duck Farming

No	Indicator	Pretest (%)	Posttest (%)
1	Have you heard about duck farming?	10	90
2	Do ducks need vitamins?	65	100
3	Do you know duck feed?	65	95
4	Is a feed adaptation period necessary for newly arrived ducks?	55	100
5	Do you know about duck diseases?	10	90
6	Is it true that one of the benefits of charcoal is to remove odors?	35	90
7	Can brown sugar be given as a mixture for duck drinks?	15	100
8	Do you know the types of ducks?	25	85
9	Do you know how to raise ducks?	30	90
10	Herbal medicine that can be given to ducks to overcome digestive problems is mango fruit?	20	95

These findings are consistent with previous studies that demonstrate the role of extension education in improving smallholder farming practices (Wulandari et al., 2022). Moreover, by integrating context-specific advice such as the use of brown sugar as a stress-reducing additive and charcoal for odor control, the training bridged local knowledge and scientific understanding effectively.

3.2. Field Implementation and Livestock Distribution

The program distributed 17 ducks (15 females, 2 males) to each of the 20 beneficiary families, focusing on household-scale production. This aligns with the low-input model of rural poultry farming, which has been widely promoted as a tool for food security and income generation (FAO, 2019). Initial post-distribution mentoring allowed participants to understand duck acclimatization, feeding behavior, and health monitoring in real-time, reinforcing knowledge retention and behavioral change (Yuliana et al., 2020).

**Figure 1** Documentation with local residents of Palembang Village



Figure 2 Observation of initial duck pen setup and livestock handover

These interventions ensured that farmers had both the resources and technical competencies to start small-scale duck farming. Participants reported a sense of ownership and motivation to maintain and grow their duck population, with several households expressing interest in developing value-added products (e.g., salted eggs, duck floss). Participants also received guidance on adaptation periods, feeding cycles, and basic biosecurity. These factors are crucial for minimizing morbidity and maximizing productivity in semi-intensive duck farming systems (Raharjo et al., 2020).

3.3. Contribution to SDG 8: Decent Work and Economic Growth

This program contributes directly to Sustainable Development Goal (SDG) 8, particularly target 8.3: “Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, and encourage the formalization and growth of micro-, small- and medium-sized enterprises (MSMEs)” (UNDP, 2023).

Duck farming offers low-barrier entrepreneurship for rural populations, especially women and marginalized groups. With adequate knowledge and technical support, participants can transform poultry keeping into a sustainable microenterprise. Products such as salted eggs and processed duck meat (e.g., floss or nuggets) have high market acceptance due to their taste and nutritional value (Astuti et al., 2021). This creates a cycle of productivity, income generation, and reinvestment at the village level.

Moreover, the program aligns with Buongiorno’s local policy for agricultural-based empowerment (Buongiorno Regency Government, 2025), and mirrors successful implementations of poultry-centered development programs elsewhere in Southeast Asia (Aini et al., 2017).

4. Conclusion

The technical guidance program implemented in Palembang Village significantly improved participants’ knowledge and practical skills in duck farming. The substantial increase in post-test results across various indicators, including disease prevention, feeding practices, and herbal treatments, indicates the effectiveness of participatory education methods. Beyond knowledge improvement, the program supports the development of community-based microenterprises aligned with Sustainable Development Goal (SDG) 8 by promoting decent work and rural economic growth. Continued mentoring and expansion of this model are recommended to ensure sustainable productivity and reinforce Palembang Village’s role as a pilot area for duck-based community empowerment.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest associated with this publication.

Statement of ethical approval

This community service activity does not involve any research on human or animal subjects. Therefore, ethical approval was not applicable. The present research work does not contain any studies performed on animals/humans' subjects by any of the authors.

References

- [1] Badan Pusat Statistik Jawa Timur. Populasi ternak menurut kabupaten/kota dan jenis ternak di Provinsi Jawa Timur (ekor), 2024. [Internet]. 2024 [cited 2026 Feb 10]. Available from: <https://jatim.bps.go.id>
- [2] Dinas Peternakan dan Kesehatan Hewan Jawa Timur. Statistik Peternakan Jawa Timur 2024. [Internet]. 2024 [cited 2026 Feb 10]. Available from: <https://disnak.jatimprov.go.id>
- [3] Pemerintah Kabupaten Bojonegoro. Program GAYATRI Bojonegoro dari dana P-APBD 2025 mulai didistribusikan kepada 5000 KPM. [Internet]. 2025 [cited 2026 Feb 10]. Available from: <https://bojonegorokab.go.id>
- [4] Kominfo Jawa Timur. Program unggulan GAYATRI pemantik semangat wirausaha. [Internet]. 2025 [cited 2026 Feb 10]. Available from: <https://kominfo.jatimprov.go.id>
- [5] Fakultas Kedokteran Hewan Universitas Airlangga. FKH UNAIR kunjungi Lamongan, Bojonegoro, dan Tuban: Kolaborasi MBKM. [Internet]. 2024 [cited 2026 Feb 10]. Available from: <https://fkh.unair.ac.id>
- [6] UNDP. Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all. [Internet]. 2023 [cited 2026 Feb 10]. Available from: <https://www.undp.org/sustainable-development-goals>
- [7] Ali S, Nurcahyani PR, Wulandari EP. Effectiveness of participatory methods in livestock training for rural communities. *J Community Dev Res*. 2021;5(2):55–62.
- [8] Gultom DA, Sari MP, Nandiyanto ABD. Participatory education for duck farmers in Indonesia: Lessons from field-based training. *Indonesian Journal of Community Engagement*. 2023;4(1):23–30.
- [9] Wulandari T, Hakim MN, Setyawati H. Extension education improves smallholder poultry practices: A case study in East Java. *J Anim Sci Tech*. 2022;40(3):101–7.
- [10] FAO. Family Poultry Development—Issues, Opportunities and Constraints. FAO Animal Production and Health Paper 201. Rome: Food and Agriculture Organization; 2019.
- [11] Yuliana R, Hartati L, Rohman A. Community mentoring in duck farming: A model for sustainable rural enterprise. *J Livestock Research*. 2020;7(2):65–72.
- [12] Raharjo T, Sutrisno B, Wijayanti N. Impact of semi-intensive duck farming on household income. *J Agric Dev*. 2020;9(1):35–42.
- [13] Astuti DA, Rachmawati Y, Prasetyo BW. Market potential and consumer acceptance of processed duck products in East Java. *J Agribusiness*. 2021;13(2):88–95.
- [14] Aini I, Yusof T, Ramli NF. Empowering women through poultry-based income generation projects in Malaysia. *Asian J Rural Dev*. 2017;7(1):22–9.
- [15] Widjiati W, Luqman EP, Puspitasari Y, Hendrawan VF, Kurniawati DY, Jawindra MR, Mega RL. Community development through training in making milk jelly candy as a signature product of Medowo Tourism Village, Kandangan District, Kediri. *World J Adv Res Rev*. 2025;27(1):1081–6.