Original Article

Assessing market potential and SWOT-based strategies for Betong chicken in Pattani, Yala, and Narathiwat provinces of southern Thailand

Talerngsak Angkuraseranee[1*] Chaiyawan Wattanachan[2] Kettawan Boonthep[3]

Abstract

This study aimed to evaluate market opportunities and formulate strategic pathways for the sustainable growth of Betong chicken, an indigenous premium poultry breed in southern Thailand known for its distinctive meat quality. Recent declines in the Betong chicken population and productivity have created a supply–demand imbalance, threatening the Betong chicken's long-term economic viability. Using a mixed-methods design, data were collected from 280 stakeholders—farmers, processors, retailers, and consumers—in Pattani, Yala, and Narathiwat provinces. SWOT and Internal–External (IE) matrix analyses were applied to identify internal strengths and weaknesses and external opportunities and threats. The External Factor Evaluation (EFE) score of 2.773 indicated substantial market potential. In contrast, the Internal Factor Evaluation (IFE) score of 2.477 showed significant constraints in productivity, infrastructure, and knowledge transfer. Recommended strategies include diversifying distribution channels, improving breeding and husbandry practices, and addressing key operational deficits to improve production efficiency and expand market access. The findings emphasize the need for coordinated public-sector investment and stronger farmer networks, with the prioritized integration of veterinary expertise—particularly in nutrition planning and disease prevention—within policy frameworks to support long-term sustainability. This integrated approach can preserve a valuable genetic resource, strengthen rural livelihoods, and promote agribusiness development in Thailand's southern border provinces.

Keywords: agribusiness strategy, Betong chicken, indigenous poultry, market potential, southern Thailand, SWOT analysis

[1]*Department of Animal Husbandry, Faculty of Veterinary Science, Chulalongkorn University, Bangkok 10330, Thailand*
[2]*Animal Production Innovation and Management Division, Faculty of Natural Resources, Prince of Songkla University, Songkhla 90110, Thailand*
[3]*Department of Animal Science and Livestock Business, Faculty of Science Technology and Agriculture, Yala Rajabhat University, Yala 95000, Thailand*
***Correspondence:** talerngsak.a@chula.ac.th* (T. Angkuraseranee)
Received June 14, 2025
Accepted August 14, 2025
https://doi.org/10.56808/2985-1130.3884

Introduction

Poultry production significantly contributes to Thailand's agricultural economy, largely meeting domestic demand and serving as a key dietary staple. Indigenous chicken breeds particularly bolster rural livelihoods, providing substantial economic, nutritional, cultural, and religious benefits (Charoensook *et al.*, 2021). Among these indigenous breeds, the Betong chicken is particularly notable for its premium meat and its adaptability to the environments of Pattani, Yala, and Narathiwat provinces in southern Thailand.

Originating from the Chinese Langshan breed, the Betong chicken is suited to the region's cooler, higher-altitude forested zones of southern Thailand (Larit and Phon-ngam, 2016). Despite its general resilience, the breed remains vulnerable to abrupt climatic fluctuations, posing challenges for disease control, flock health management, and consistent productivity.

Although Betong chicken occupies a profitable niche market, sector expansion is significantly hindered by limited production capacity stemming from predominantly small-scale farming operations, inconsistent husbandry practices, and inadequate infrastructure. Recognizing these challenges, the Thai government has actively promoted Betong chicken farming as a rural development strategy, underscoring the breed's potential as a high-value agricultural product and its socio-economic importance.

Considering the breed's substantial economic and cultural value, as well as strategic governmental interest in its development, a detailed assessment of current production practices, sector-specific challenges, and market opportunities is essential. Accordingly, this study aims to: (1) evaluate existing production systems and performance metrics; (2) identify and analyze critical internal and external factors influencing sustainability; and (3) develop targeted, actionable strategies for enhancing Betong chicken agribusiness sustainability in southern Thailand.

Materials and Methods

Data Collection: A mixed-methods research design, incorporating both qualitative and quantitative approaches, was employed to assess the market potential and sustainability of the Betong chicken sector. Primary data were collected between 2017 and 2024 through semi-structured interviews with Betong chicken farmers and consultations with provincial livestock officers. Purposive and snowball sampling methods were used to identify niche producers and ensure comprehensive stakeholder representation across the production value chain (Biernacki and Waldorf, 1981; Boyce and Neale, 2006). The stakeholder group comprised 280 participants from Pattani, Yala, and Narathiwat provinces, including 50 farmers, 10 processors, 20 wholesalers or retailers, and 200 consumers. In addition, non-participant observations and five stakeholder focus groups—each involving 8–10 individuals such as farmers, processors, business owners, restaurateurs, and local officials—were conducted to gather detailed insights into production, distribution, marketing, and support services. Secondary data were obtained from official government statistics (e.g., Department of Livestock Development, DLD), academic literature, and industry reports to corroborate primary findings and enhance data reliability.

Data Analysis: Structured interviews and focus group discussions served as the primary qualitative methods for exploring the internal and external factors influencing the Betong chicken market. Data collection was supported by structured questionnaires administered across all stakeholder groups, systematically capturing insights into market perceptions, production practices, and operational challenges. To ensure analytical rigor and strengthen the validity of findings, methodological triangulation was employed—integrating multiple data sources, researchers, and analytical approaches. A SWOT framework was utilized to categorize identified factors into internal strengths and weaknesses and external opportunities and threats. These factors were quantitatively assessed using the Internal Factor Evaluation (IFE) and the External Factor Evaluation (EFE) matrices, with weightings and ratings derived from stakeholder input, literature review, and secondary datasets. The scoring methodology adhered to the standardized weight–rating procedure outlined by David and David (2017), thereby reinforcing the credibility and robustness of the strategic analysis.

Strategic Matrix Construction: A strategic analysis of the Betong chicken industry was conducted using structured internal and external factor evaluations. Internal factors, including management practices, financial resources, marketing strategies, production efficiency, and operational capabilities, were systematically assessed to construct the IFE matrix. Simultaneously, external influences spanning economic, social, demographic, cultural, environmental, legal, and technological dimensions were evaluated and weighted to formulate the EFE matrix. These matrices were subsequently integrated into the Internal–External (IE) matrix, aligning the identified strengths and weaknesses with relevant opportunities and threats in the market environment. All matrix computations adhered to the standardized weighting-rating methodology outlined by David and David (2017).

To further guide strategy formulation, a TOWS analysis was performed to synthesize SWOT findings by systematically matching internal and external factors. This yielded four strategic directions: Strength–Opportunity (SO), Strength–Threat (ST), Weakness–Opportunity (WO), and Weakness–Threat (WT). The structured framework facilitated the identification of targeted, context-specific interventions to support effective strategic planning for the sustainable development of the Betong chicken sector. This research involved field-based observational studies and stakeholder data collection without animal experimentation.

Result

Production Practices and Performance Analysis

***Population Trends and Betong chicken Production Gap*:** Between 2017 and 2023, Thailand's native chicken population increased from 88.86 million to 114.49 million birds (Table 1). The southern region mirrored this growth, with flocks expanding from 10.76 million to 13.67 million birds. In Zone 9 (Songkhla, Satun, Pattani, Yala, and Narathiwat), populations reached 4.72 million in 2023. Focusing specifically on Pattani, Yala, and Narathiwat, the combined native chicken population grew from 1.97 million in 2017 to 2.60 million in 2023 (Table 2). In contrast, the Betong chicken population within these provinces sharply declined by 52%, from 53,694 birds in 2019 to 26,000 in 2023 (Table 3). Pattani exhibited the steepest decline, with flocks decreasing from 31,294 to 16,000 birds. Farmer and stakeholder interviews indicated an estimated annual demand of 98,000 Betong chickens. With current production levels, there is an estimated annual shortfall of 72,000 birds, underscoring significant sustainability concerns for Betong chicken production. Population decline was primarily due to economic pressures from the pandemic, inadequate management practices (poor breed selection, inconsistent brooding, irregular vaccination), security concerns (predation, theft), and limited modernization capital.

Performance and Management Systems: Betong chickens exhibit uniform bright reddish-yellow plumage, yellow skin and beak, and a single comb (Fig. 1). Smallholder flocks typically comprise 300–1,000 birds per production cycle, managed primarily under semi-confinement systems with limited daily foraging. Alternative systems—full confinement, single cages, or free-range—are less prevalent due to higher labor and capital requirements. Birds are typically marketed at two age ranges: 16–18 weeks (younger group: males 2.0–2.2 kg, females 1.7–2.0 kg) and 20–24 weeks (older group: males 2.2–2.5 kg, females 1.8–2.2 kg). Despite these traditional practices, most farmers suggest that an optimal raising period of approximately 12 weeks could yield greater productivity and economic efficiency.

Feeding Practices: Feeding practices differ based on production objectives. For fattening, chicks initially receive commercial broiler feed (≥21% protein) for the first six weeks, transitioning gradually to locally sourced feeds—such as boiled rice, kitchen scraps, rice bran, broken rice, and banana stems—from weeks 7 to 20, complemented by natural foraging. For breeding purposes, a structured phased-feeding regimen supports optimal growth outcomes: starter (0–6 weeks), grower (7–16 weeks), and finisher stages (17–26 weeks).

Farming Practices and Veterinary Challenges: In free-range farming, producers independently invest in basic infrastructure and rely on locally sourced feeds, typically raising birds for approximately five months. Income stability in this system is primarily influenced by market fluctuations and the farmer's level of experience. In contrast, contractual farming reduces risk through cooperative arrangements that facilitate access to chicks, feed, and veterinary services. Farmer income under this model depends on key performance indicators such as survival rate, feed conversion efficiency, and final weight. Family labor is predominant in both systems, which also rely on phased feeding regimens to achieve market weights. Despite structured practices in both free-range and contractual systems, substantial challenges persist. Poor management (breed selection, feeding practices, and biosecurity) and veterinary challenges (inadequate vaccination and disease management) contribute to high mortality and low productivity.

Table 1 Native chicken population trends in Thailand, the southern region, and Zone 9 from 2017 to 2023, illustrating national and regional growth patterns.

Year	Thai native chickens (birds)		
	Nationwide	Southern provinces	Zone 9*
2017	88,858,089	10,755,698	3,743,119
2018	91,219,386	11,624,165	4,118,497
2019	93,714,829	12,903,696	4,595,956
2020	94,130,344	13,155,876	4,596,144
2021	109,034,761	14,261,395	4,779,965
2022	117,367,900	14,117,407	4,820,916
2023	114,488,630	13,666,794	4,715,598

Note: Zone 9 includes Songkhla, Satun, Pattani, Yala, and Narathiwat provinces.
Source: Department of Livestock Development (DLD)

Table 2 Native chicken population in Pattani, Yala, and Narathiwat provinces between 2017 and 2023, showing changes in flock numbers across the three provinces.

Year	Thai native chickens (birds)			
	Pattani	Yala	Narathiwat	Total (birds)
2017	615,230	794,778	564,667	1,974,675
2018	629,121	811,037	686,746	2,126,904
2019	714,525	887,908	902,353	2,504,786
2020	718,125	849,856	950,604	2,518,585
2021	714,904	831,587	979,958	2,526,449
2022	771,800	837,696	1,001,942	2,611,438
2023	774,019	837,594	992,839	2,604,452

Source: Department of Livestock Development (DLD)

Table 3 Betong chicken population in Pattani, Yala, and Narathiwat from 2019 to 2023, highlighting provincial distribution and overall population decline.

Year	Betong chickens (birds)			
	Pattani	Yala	Narathiwat	Total (birds)
2019	31,294	8,400	14,000	53,694
2020	24,000	4,800	12,000	40,800
2021	8,000	4,800	3,200	16,000
2022	11,000	5,600	3,200	19,800
2023	16,000	6,000	4,000	26,000

Source: Department of Livestock Development (DLD)

Figure 1 Phenotypic characteristics of Betong chickens, showing a mixed flock, a female, and a male bird, illustrating the breed's uniform bright reddish-yellow plumage, yellow skin and beak, and single comb.

Market structure, pricing, and opportunities

Market Structure and Pricing: Betong chickens are primarily traded through smallholder farms that supply merchants, slaughterhouses, and restaurants. While fresh birds are commonly sold in traditional markets, modern retail outlets increasingly offer packaged carcasses, which are perceived as more hygienic and of higher quality. At 24 weeks, males typically weigh 2.0–3.5 kg and females 1.5–2.0 kg; as a result, market demand tends to favor males. Betong chickens require 4–4.5 months to reach market weight. Live birds generally sell for 120–200 baht per head—about three times the price of commercial broilers. During peak-demand periods, prices can surge to 252 baht per kg, while dressed carcasses may retail for 700–800 baht per kg. These elevated prices reflect the breed's premium positioning. However, rising input costs, market volatility, and inconsistent consumer demand continue to constrain profit margins and challenge the long-term financial sustainability of the sector.

***Market Opportunities for Betong Chickens*:** Growing consumer demand for high-quality, premium poultry products creates favorable market conditions for Betong chicken. Its distinctive texture and flavor provide a competitive advantage within niche market segments. However, to fully realize this potential, persistent supply chain inefficiencies and the limited production capacity of smallholder systems must be addressed. Coordinated improvements across production, processing, and distribution networks are essential to support sustainable market expansion and ensure consistent product availability.

SWOT and IFE/EFE Analysis: A SWOT analysis (Fig. 2) summarizes the key factors influencing the sustainability of Betong chicken agribusiness in Pattani, Yala, and Narathiwat provinces. The analysis highlights internal factors: strengths (e.g., superior breed quality) and weaknesses (e.g., low productivity), and external factors: opportunities (e.g., expansion of premium poultry markets) and threats (e.g., high production costs). These findings inform strategic directions based on the TOWS matrix framework to guide sustainable sector development.

***Strengths*:** Betong chickens are distinguished by premium meat characteristics—firm texture, chewy skin, low fat content, and unique flavor—which support high consumer demand and justify premium pricing. These traits contribute to strong positioning in high-end markets. The breed's adaptability to local climatic conditions and efficient domestic production systems further enhance its viability, particularly among smallholder producers. Combined with robust government support and favorable policy initiatives, these factors establish a strong foundation for sustainable expansion within the premium poultry sector (Table 4; Fig. 2).

***Weaknesses*:** Despite its strengths, the Betong chicken sector faces internal challenges that constrain growth. Limited production volume among small-scale producers, combined with low productivity and an inadequate supply of purebred stock, restricts scalability. Deficiencies in breed control systems, coupled with knowledge gaps in incubation and meat processing, hinder product innovation and value addition. Inadequate infrastructure—such as poorly equipped slaughterhouses, inconsistent feed supply, and lack of access to improved strains—further undermines production efficiency. These structural weaknesses present barriers to modernization and

broader market integration, necessitating targeted support to unlock the breed's full potential (Table 4; Fig. 2).

***Opportunities*:** Rising consumer demand for high-quality indigenous poultry presents significant opportunities for product diversification and deeper market penetration. This trend is reinforced by growing preference for the distinctive flavor and texture of Betong chicken, as well as increasing expectations for premium meat quality. These dynamics position the breed favorably in niche markets. Additionally, continued government support—through funding, technical training, and infrastructure development—can accelerate sectoral growth. Emerging opportunities in tourism and value-added product innovation further strengthen prospects for sustainable expansion (Table 5; Fig. 2).

***Threats*:** The sector faces critical external threats that jeopardize its long-term sustainability. High input and logistical costs, compounded by rising feed prices, undermine profitability and production efficiency. Security concerns and restricted market access, particularly in the southern border provinces, further constrain distribution networks. Moreover, the absence of a formal breed control system complicates efforts to maintain genetic purity and disease resilience. These challenges, along with infrastructure gaps in processing and transport, demand targeted policy and investment responses to build sector resilience and ensure stable development (Table 5; Fig. 2).

Internal and external factors were assessed using IFE and EFE matrices. The IFE score was 2.477, and the EFE score was 2.773. These were integrated into an IE matrix to guide strategic planning, following David and David's (2017) weighting methodology.

Strategic Interventions for Agribusiness Development

The study systematically assessed and weighed internal factors—including management, finance, marketing, production, and operational capabilities—to construct the IFE matrix. External factors comprising economic, social, demographic, cultural, environmental, legal, and technological dimensions formed the basis of the EFE matrix. We integrated the results into the IE matrix, guiding strategic recommendations through the alignment of identified strengths and weaknesses with relevant opportunities and threats. All matrix computations adhered to the weight–rating methodology described by David and David (2017). This Strategic Matrix construction identifies four tailored strategies based on the SWOT analysis framework: Strength–Opportunity (SO), Strength–Threat (ST), Weakness–Opportunity (WO), and Weakness–Threat (WT) strategies to guide sustainable sector development.

SO Strategy: Leverage strong consumer preferences (S2) and premium product differentiation (S3) to meet rising demand for high-quality poultry (O1) and evolving expectations (O3, O4). Target upscale segments (O1) with value-added products (e.g., pre-marinated or seasoned cuts), supported by focused promotion that reinforces premium positioning. Where feasible, pair product upgrading with the hygienic processing practices already described, so veterinary-guided quality assurance underpins premium pricing and delivers consistent stakeholder benefits (higher farmer margins, improved processor throughput, reliable restaurant supply).

ST strategy: Use domestic production efficiency (S4) and climate adaptation (S6) to offset high costs (T1) and limited market access (T3). Environmental resilience and carcass advantages (S6) can improve conversion efficiency and dampen input cost pressure (T1). To address logistics and security constraints (T3), prioritize investments in processing and transport infrastructure with localized safeguards; embed veterinary-advised flock health routines so cost savings are durable and traceable to policy-supported practice standards.

WO Strategy: Reduce financial constraints (W2) and technical gaps (W5) by channeling government programs (O5) and labor-intensive opportunities (O7) into practical, market-oriented training and core infrastructure. Adopt structured, competency-based modules (e.g., brooding, biosecurity, slaughter hygiene, basic processing) that can be delivered or validated by veterinary teams, thereby translating public support (O5) into measurable gains in productivity and product uniformity. Linking production with tourism (O7) diversifies income and stabilizes supply chains while remaining aligned with existing regional policy tools.

WT Strategy: Confront supply shortfalls (W3), breed-purity risks (W6), and low productivity (W8) alongside feed cost escalation (T4) and genetic dilution (T5). Implement feed-efficiency measures and genetic conservation programs, operationalized through veterinary-led selection practices to protect integrity and reduce costs. Complement with targeted training in processing, marketing, and financial management to build whole-chain resilience; position these activities for piloting within existing policy support so adoption can be certified and scaled.

Table 4 Internal Factor Evaluation (IFE) matrix for the Betong chicken industry in southern Thailand, showing key strengths and weaknesses with assigned weights, ratings, and weighted scores.

	Key Internal Factors	Weight	Rating	Weighted score
Strengths				
S1	Availability of Betong chicken cooperation groups	0.070	3	0.210
S2	Consumer preferences for Betong chicken	0.070	4	0.280
S3	Differentiated high-end products	0.070	3	0.210
S4	Efficient domestic production system	0.069	4	0.276
S5	Government support and development programs	0.070	3	0.210
S6	Suitable geography, climate, and breed adaptation	0.068	4	0.272
S7	Rapid growth in premium markets	0.068	3	0.204
	Total Strengths			1.662
Weaknesses				
W1	Difficulty in creating profitability	0.060	1	0.060
W2	Financial limitations for small-scale farmers	0.060	2	0.120
W3	Inadequate supply of Betong chickens for domestic demand	0.060	2	0.120
W4	Lack of feed and fodder	0.050	1	0.050
W5	Lack of meat processing knowledge	0.060	2	0.120
W6	Lack of a pure-breed control system	0.055	1	0.055
W7	Lack of product variety	0.060	2	0.120
W8	Low productivity	0.050	1	0.050
W9	Lack of sufficient slaughterhouse infrastructure	0.060	2	0.120
	Total Weaknesses			0.815
	Total			**2.477**

Ratings: 1 = major weakness, 2 = minor weakness, 3 = minor strength, 4 = major strength

Table 5 External Factor Evaluation (EFE) matrix for the Betong chicken industry in southern Thailand, summarizing key opportunities and threats with assigned weights, ratings, and weighted scores.

	Key External Factors	Weight	Rating	Weighted score
Opportunities				
O1	Potential demand for Betong chicken	0.085	4	0.340
O2	Increasing the buying power of the market	0.085	4	0.340
O3	Rising expectations for high-quality chicken meat products	0.088	4	0.352
O4	Consumer Preferences for Betong chicken meat	0.085	4	0.340
O5	Local government support for Betong chicken development	0.085	3	0.255
O6	New trends in diverse chicken meat product offerings	0.082	3	0.246
O7	Employment opportunities for labor-intensive farming	0.080	3	0.240
	Total Opportunities			2.113
Threats				
T1	High input costs of Betong chicken operations	0.085	2	0.170
T2	Increase in Betong chicken price	0.080	2	0.160
T3	Poor access to domestic markets	0.085	2	0.170
T4	Increase in feed prices	0.080	1	0.080
T5	Difficulty in controlling purebred stock	0.080	1	0.080
	Total Threats			0.660
	Total			**2.773**

Ratings: 1 = poor response, 2 = average, 3 = above average, 4 = superior

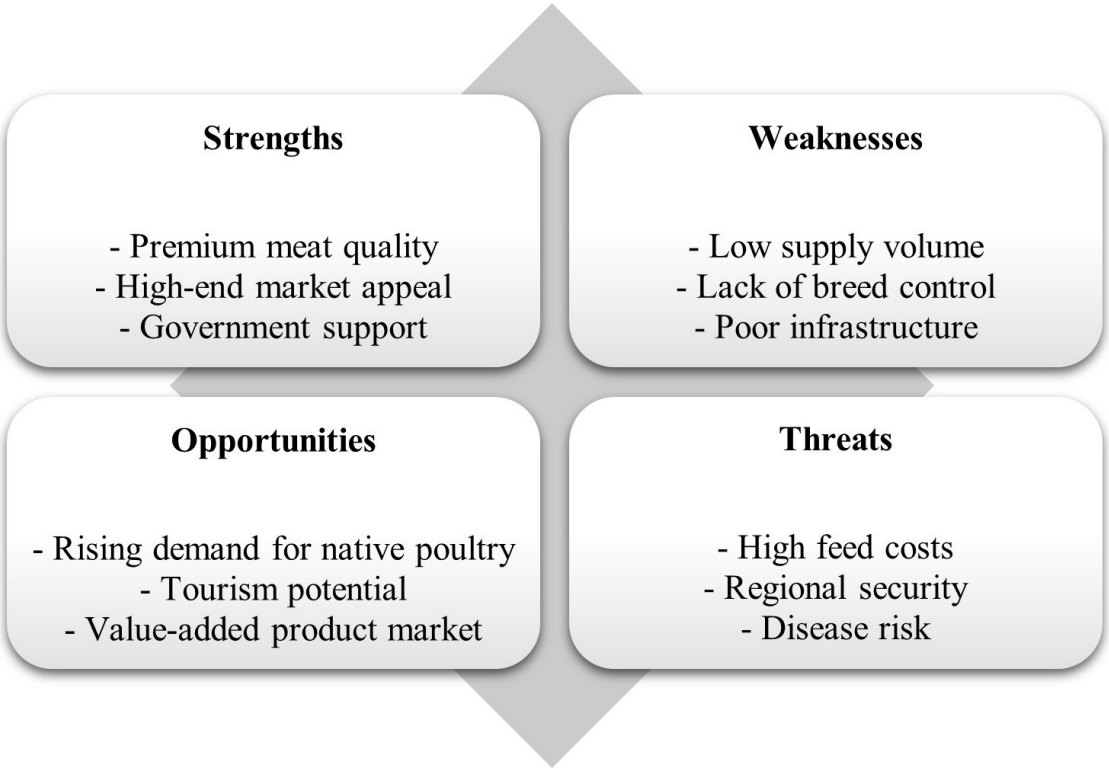

Figure 2 SWOT analysis framework for the Betong chicken agribusiness in southern Thailand, summarizing identified strengths, weaknesses, opportunities, and threats derived from stakeholder interviews and focus groups.

Discussion

The Betong chicken is a high-value indigenous breed that supports rural incomes, agribusiness sustainability, and regional cultural identity in Thailand's three southern provinces. Although production remains limited, it supplements household earnings and sustains culinary traditions (Chanjula and Pattamarakha, 2002), also drawing food-motivated tourism from neighboring areas—particularly from neighboring Malaysia. Consumers pay premiums for indigenous chickens due to favorable characteristics such as meat flavor, fat content, and yolk pigmentation (Bett *et al.*, 2013). Seasonal price peaks and breed adaptability (Chanjula, 1998; Chanjula and Pattamarakha, 2002) indicate opportunities to synchronize production and marketing with demand cycles.

Coordinated initiatives to modernize infrastructure and standardize production practices may help address documented internal constraints and leverage existing policy support.

Nonetheless, structural constraints persist. These include inadequate breeding practices, limited access to high-quality genetic resources, infrastructural deficits, and weak coordination among stakeholders—all of which constrain sustainable development (Reodecha, 2015). Loengbudnark *et al.* (2024) reported high mortality rates due to disease outbreaks, while Charoensook *et al.* (2021) stressed the need to implement improved biosecurity and flock management practices. Furthermore, official statistics (DLD, 2024) documented population decline in Betong chicken, posing material risks to the breed's long-term sustainability and economic viability.

To address these constraints, the following strategic priorities are recommended: (1) develop hygienically processed, high-value product lines that respond directly to consumer demands for quality; (2) implement rigorous genetic conservation programs for Betong chicken; (3) strengthen farmer networks and management systems; (4) expand targeted public investment in infrastructure and capacity-building; (5) adopt best-practice husbandry and management; and (6) pursue demand-driven expansion consistent with regional development goals. Collectively, these measures are essential to overcoming existing barriers, advancing sustainable growth, and fully realizing the breed's cultural and economic potential in Pattani, Yala, and Narathiwat provinces. Veterinary inputs address operational challenges. Breeder selection enables policy-credible choices that reduce inbreeding and genetic dilution (W6, T5) while improving growth and robustness. Veterinary involvement can be central to developing disease control and biosecurity protocols, including vaccination practices, hygiene measures, and farmer training programs. These veterinary-led initiatives can lower health-related productivity losses (W8), thus directly informing regional agricultural policy to enhance sector resilience. For example, the implementation of routine veterinary-guided biosecurity assessments can inform governmental guidelines and farmer certification schemes, further standardizing practices across farms. Veterinary nutritionists can specify locally adaptable feed formulations that enhance feed efficiency and mitigate feed-cost volatility (T4), with delivery through subsidized training and resource support instruments already referenced. Where feasible, pilot these veterinary interventions—biosecurity certification, breeder selection, and nutrition packages—to generate measurable gains in farmer margins and retail supply, providing the evidence base for scale-up.

In conclusion, coordinated pilot programs in Pattani, Yala, and Narathiwat should be implemented to deliver measurable improvements in survival rates, growth performance, and producer margins. By integrating technical support—including veterinary services—with targeted public investment and stronger farmer networks, it is possible to close the supply gap, preserve genetic integrity, and better align production with demand cycles. This approach may facilitate a transition from smallholder operations toward a market-oriented value chain for Betong chickens in southern Thailand, maximizing the breed's market potential.

Acknowledgments

The authors would like to extend their gratitude to Thailand Science Research and Innovation (TSRI: RDG60A0047/01) for funding this research.

Conflict of interest: The authors confirm that no conflict of interest exists.

References

Bett HK, Peters KJ, Nwankwo UM and Bokelmann W 2013. Estimating consumer preferences and willingness to pay for underutilised indigenous chicken products. Food Policy 41: 218-225.

Biernacki P and Waldorf D 1981. Snowball sampling: Problems and techniques of chain referral sampling. Sociol Methods Res. 10: 141-163.

Boyce C and Neale P 2006. Conducting in-depth interviews: A guide for designing and conducting in-depth interviews for evaluation input. [Online]. Available: https://nyhealthfoundation.org/wp-content/uploads/2019/02/m_e_tool_series_indepth_interviews-1.pdf. Accessed June 06, 2024.

Chanjula P 1998. Betong chicken: An interesting native chicken. Khon Kaen Agric J. 23: 111-116.

Chanjula P and Pattamarakha K 2002. Betong chicken raising in southern Thailand: A preliminary survey. J Int Soc Southeast Asian Agric Sci. 8: 14-24.

Charoensook R, Tartrakoon W, Incharoen T, Numthuam S, Pechrkong T and Nishibori M 2021. Production system characterization of local indigenous chickens in lower northern Thailand. Khon Kaen Agric J. 49: 1337-1350.

David FR and David FR 2017. Strategic management: A competitive advantage approach, concepts and cases. 16th ed. Boston: Pearson Education.

Department of Livestock Development (DLD) 2024. Report: Thailand livestock. Bangkok: Information and Communication Technology Center. [Online]. Available: https://ict.dld.go.th/webnew/index.php/th/service-ict/report/247-report-thailand-livestock. Accessed June 06, 2024.

Larit J and Phon-ngam P 2016. Raising of native chicken in Thailand. Int J Sci Technol Manag. 5: 47-55.

Loengbudnark W, Chankitisakul V, Duangjinda M and Boonkum W 2024. Sustainable growth through Thai native chicken farming: Lessons from rural communities. Sustainability 16: 7811.

Reodecha C 2015. Creating the value of Thai native chicken: R&D strategies, challenges, stakeholders, and key factors. Khon Kaen Agric J. 43(Suppl. 2): 3-8.