

A feasibility study on the quail egg production in San Jose, Occidental Mindoro

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ISSN: 2243-7738
Online ISSN: 2243-7746

OPEN ACCESS

Received: 13 March 2025
Available Online: 5 May 2025

Revised: 25 April 2025
DOI: 10.5861/ijrset.2025.25010

Accepted: 30 April 2025

Abstract

Recognizing the increasing demand for affordable and unique nutritional food, as well as the growing interest in small-scale poultry farming, this feasibility study explores the potential of establishing a sustainable quail egg production venture in San Jose, Occidental Mindoro. The primary objective of the study is to determine the feasibility and viability of establishing a quail egg production in San Jose, Occidental Mindoro. This study employed a descriptive research design. It involved direct interaction with respondents, gathering data through survey questionnaires, and reviewing existing studies, reports, and articles on quail egg production. The survey results revealed strong market potential, with 99% of respondents showing interest and a willingness to purchase local quail eggs. The project is located in San Miguel, Mapaya, San Jose, and Occidental Mindoro. The initial project cost is PHP 173,893.00. The financial projection indicates profitability from the first year of operation, with a 68% projected return on investment and 133% in the second year, with the return increasing for the next few years. The study concludes that the production and marketing of quail eggs in San Jose, Occidental Mindoro, is viable and holds significant potential. The proposed project is expected to contribute to the economy by creating job opportunities, supporting local farmers, increasing local government collections, and giving healthy food options to consumers. Based on the findings, recommendations include proceeding with the project due to its positive feasibility assessment, developing a robust marketing strategy, implementing training programs, establishing a system for regular monitoring and evaluation of the production processes, and incorporating sustainable farming practices.

Keywords: quail egg production, unique nutritional food, profitable, viable, job opportunities, feasibility study

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1. Introduction

San Jose, Occidental Mindoro, Philippines, boasts a rich agricultural heritage and a growing population, possessing a rich history of farming and livestock raising (Limos-Galay et al., 2023). The poultry industry in the Philippines has been a significant contributor to the country's agricultural sector, providing livelihoods to many rural communities. Rice farming has been a mainstay of the local economy, along with the production of various fruits, vegetables, and livestock (Philippine Statistics Authority, 2022). Recognizing the increasing demand for affordable and unique nutritional food, as well as the growing interest in small-scale poultry farming, this feasibility study explores the potential of establishing a sustainable quail egg production venture in San Jose, Occidental Mindoro.

Quail eggs, with their increasing popularity, affordability, and versatility in culinary applications, present a compelling opportunity for diversification within the poultry industry (Lee et al., 2018). While chicken eggs are the most widely consumed type of egg in the Philippines, their cost, often ranging from PhP 8.00 to 10.00 per piece, can strain household budgets. Quail eggs, on the other hand, are a popular alternative with a more affordable price point. Quail eggs are small, nutrient-dense eggs produced by quails and offer numerous health benefits (Gomaa et al., 2024). They are often considered a delicacy and widely used in various culinary applications, including boiled snacks, salads, and specialty dishes. Despite being significantly smaller than chicken eggs, quail eggs help boost immunity, improve vision health, stimulate growth and repair in the body, and increase energy levels. The high levels of antioxidants in quail eggs also benefit heart health. Regular consumption of quail eggs can lead to improved overall health and well-being (Saeed et al., 2025; Petek et al., 2022).

Quail egg production is a viable agribusiness venture due to its low startup costs, high egg production rate, and short production cycle. Quails are small, hardy birds that require minimal space and feed compared to chickens, making them ideal for small-scale farmers (Adom et al., 2023). Putting up a quail egg production in San Jose, Occidental Mindoro, offers substantial economic benefits to the local community. This will serve as a model for sustainable agricultural development, attracting further investment and fostering economic growth within the municipality. It will surely sustain the increasing demand for affordable and nutritious food within San Jose and nearby towns, appealing to environmentally conscious consumers.

This proposed project will be a small-scale agricultural business. The business model focuses on producing and selling quail eggs, with the potential to expand into quail meat production. The local restaurants, hotels, schools, groceries, markets, and street vendors in San Jose, Occidental Mindoro, may face challenges sourcing quail eggs, as they rely on limited supplies from neighboring provinces or distant markets like Batangas. While this provides access to a consistent supply, the current delivery system relies heavily on intermediaries, which often results in extended transport times and affects egg freshness and quality. This situation has created a gap between the high demand for quail eggs in San Jose, Occidental Mindoro, and the limitations of the current supply chain. Hence, this study was conceived to provide a reliable source of locally fresh quail eggs directly to consumers from the farm. People in the communities can become more self-sufficient in food production and reduce reliance on external sources. This also supports businesses, ensuring they can get the highest quality eggs at affordable prices (Lingala et al., 2024).

This feasibility study aims to analyze the potential profitability, market demand, and operational requirements of establishing a quail egg production and selling business in the province. Aside from that, it also aims to provide evidence-based recommendations to potential investors and entrepreneurs regarding the viability and potential of quail egg production as a profitable and sustainable agricultural venture in San Jose, Occidental

Mindoro.

Objectives of the Study - The primary objective of the study is to determine the feasibility and viability of establishing quail egg production in San Jose, Occidental Mindoro. The specific objectives of this study are as follows: (1) to identify the target market for quail eggs and formulate marketing strategies and techniques for the success of the proposed business; (2) to determine the technical aspects of quail farming, including optimal housing, feeding, breeding, and disease management practices suitable for the local climate and resources; (3) to assess the potential for job creation and economic development in San Jose, Occidental Mindoro; and (4) to assess the financial implications, evaluating start-up costs, operating expenses, projected revenue, and profitability for the first five years of operation.

Significance of the Study - This feasibility study of quail egg production in San Jose, Occidental Mindoro, may be significant to the following individuals and organizations. To the local consumers, this study leads to increased availability of quail eggs, offering consumers a nutritious and flavorful alternative source of nutrients so that they are more inclined to purchase locally produced quail eggs. To local business owners, this study provides valuable information about the demand for quail eggs in the local market, helping them identify potential partnerships between quail egg producers and local businesses, create new supply chains, and support local economies. To the local community, this study benefits them by providing both easier access to quail products and new employment opportunities. And to the government, this study provides insights into potential regulatory needs for the quail egg production industry, ensuring compliance with food safety standards and animal welfare. Moreover, this study provides a comprehensive assessment of quail egg production viability, helping the proponent make an informed decision about investing time, resources, and capital. To future researchers, the findings of this study, including market data, production costs, and profitability analysis, provide valuable information for future research on quail egg production. Lastly, to the Divine Word College of San Jose, this study makes a valuable contribution to the institution's academic output, highlighting its commitment to producing knowledge that benefits the community.

Scope and Delimitation of the Study - This study focused on evaluating the viability of having quail egg production in the municipality of San Jose, Occidental Mindoro. It involved direct interaction with respondents, gathering data through questionnaires distributed and completed during face-to-face interviews. The study concentrated on businesses in San Jose, Occidental Mindoro, using a sample size of 360 respondents selected from a total population of 5,535 business establishments registered with the BIR as of December 31, 2024. The sample was determined using Raosoft, aiming for a 5% margin of error and a 95% confidence level. The researcher also gathered data from eight quail egg wholesalers and two quail egg producers through survey questionnaires to identify the target market for quail eggs and ultimately formulate marketing strategies and techniques for the proposed business's success. This study also included market analysis, technical aspects, social and environmental impacts, and financial aspects.

Sources of data - The study source analysis was based on a combination of primary and secondary data collection. A structured questionnaire was administered to a randomly selected sample of 360 businesses in San Jose, Occidental Mindoro, to gather data on consumer preferences, consumption patterns, and willingness to purchase quail eggs. A total of 5,534 active taxpayers was used as the population. Using the Raosoft Sample Size Calculation with a 5% margin of error and a 95% confidence level, a sample size of 360 was arrived at. The researcher also conducted a survey questionnaire with eight wholesalers of quail eggs, focusing on understanding their marketing practices and pricing strategies, as well as with two quail egg producers. The data collected from the study were reinforced by information from the internet and reading materials, which supplied and validated the information gathered.

2. Methodology Mindoro,

This feasibility study employed a descriptive research design to assess the market potential for quail egg

production in San Jose, Occidental Mindoro. Information was collected and analyzed using both primary and secondary data collection methods. Primary data were gathered through a survey questionnaire administered to two (2) quail egg producers from Bubog, San Jose, Occidental Mindoro, and Oriental Mindoro; eight (8) wholesalers; and three hundred sixty (360) businesses to gather insights on production costs and market demand for quail eggs. Secondary data for this study were collected through a review of existing studies, reports, and articles on quail egg production in the Philippines, including academic research available online and reading materials. Additionally, government data on agricultural production and market trends in Occidental Mindoro were analyzed, and information was gathered from the websites of the Philippine Statistics Authority and the Department of Agriculture.

3. Market Study

Market Description - The proponent seeks to penetrate the market as a producer of quail eggs. A growing demand for fresh, local, and affordable protein sources characterizes the market for quail egg production in San Jose, Occidental Mindoro. Consumers are increasingly seeking alternative protein options due to rising costs and a growing awareness of healthy habits (Wood & Tavan, 2022). However, the current supply chain for quail eggs in San Jose primarily relies on imported products from Batangas, leading to potential challenges related to freshness, price, and transportation costs. This highlights a significant opportunity for local quail egg production to meet the growing demand within the province. A comprehensive market analysis was conducted to assess the viability of the proposed quail egg production project. This research will initially focus on two key areas: the San Jose Public Market and the farm. The San Jose Public Market will be the primary target market for this study, representing the initial consumer base. The secondary target will be the farm locations. The proposed quail egg production project will be located in Sitio San Miguel, Mapaya, San Jose, Occidental Mindoro. The spacious location, with a lot area of 1,500 sq m, nestles among trees and is adjacent to rice fields, providing a calming environment that helps reduce stress and disease in quail. This project aims to provide a reliable and fresh source of high-quality quail eggs for the diverse markets of San Jose, Occidental Mindoro.

Demand Analysis - To gather the relevant information needed for the study, 360 respondents from the business establishments of San Jose, Occidental Mindoro, were surveyed. The demand analysis based on the survey in Figure 1 revealed a growing interest in quail eggs among consumers in Mapaya, San Jose, Occidental Mindoro, with a significant portion of the target market seeking alternative protein sources. Based on the survey questionnaires conducted with 360 respondents, the demand for quail eggs is shown in the figure below.

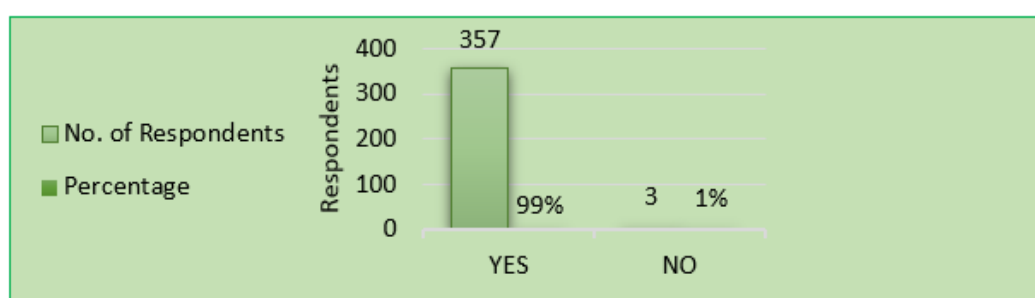


Figure 1: Respondents' Willingness to Patronize Local Quail Eggs

Figure 1 provides a strong indication that there is a market for locally produced quail eggs. The survey highlighted that 357, or 99%, of the respondents indicated that they would be willing to buy locally produced quail eggs from the proposed project. Only 3, or 1%, of the respondents indicated they would not patronize local quail eggs.

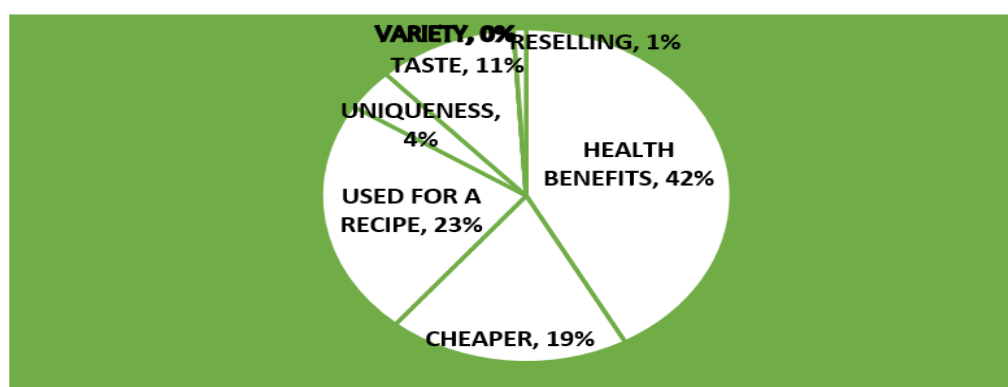


Figure 2. Respondents' Reasons for Consumption of Quail Eggs

Figure 2 aims to identify the primary reasons why respondents choose to purchase or consume quail eggs. It shows that 42% of the respondents cited health benefits as the main reason for buying quail eggs. This suggests a strong opportunity to market the nutritional value of quail eggs. On the other hand, 23% said it is used in a recipe, 19% of the respondents cited that it is cheaper, and the remaining 11%, 4%, and 1% purchase it for taste, uniqueness, and reselling, respectively.

Table 1

Number of Quail Eggs Sold by Wholesalers per Day

WHOLESALERS	QUAIL EGGS SOLD PER DAY (BY PIECES)
Public Market #1	100
Public Market # 2	150
Public Market # 3	300
Public Market # 4	500
Public Market # 5	900
Liboro St #1	1,000
Liboro St #2	800
San Roque	1,000
TOTAL	4,750

Based on Table 4, the total daily sales of quail eggs from eight (8) wholesalers of San Jose, Occidental Mindoro, are 4,750 pieces. Based on 30 days, the average monthly sales are 142,500 pieces, yielding an annual projected total of 1,710,000 pieces, or approximately 17,100 boxes of quail eggs, each containing around 100 pieces. This represents the total demand for quail eggs in 2025. The proponent plans to start the quail egg production venture in 2026, with a flock of 1,000 quails. The production of quail eggs will begin in the third month of the first year of operation. Based on an 80% productivity rate, the farm projects a daily production of 800 pieces of quail eggs. This translates to a proponent's annual output of 240,000 pieces calculated over 360 days. Adding the proponent's projected yearly production of 240,000 pieces for the first year of operation, the projected total annual demand for 2026 will be 1,950,000 pieces, or 19,500 pieces in boxes of 100. An estimated yearly increase of 6% was based on a demand forecast from a market research study. The report on the global quail eggs market size projects a combined annual growth rate of 6.10% from 2024 to 2031, reaching USD 99 million by the end of 2031 (Verified Market Research, 2024). This report highlights the increasing demand for naturally laid quail eggs due to their health benefits and use in various food products and cosmetics. Verified Market Research (VMR) is a leading global research and consulting firm, providing a credible and trusted source of market insights.

Supply Analysis - The main raw materials in quail egg production are quail birds, which are not usually

found in San Jose or Occidental Mindoro. So far, the known suppliers of quails in the province are located in Batangas, Bulacan, and Oriental Mindoro.

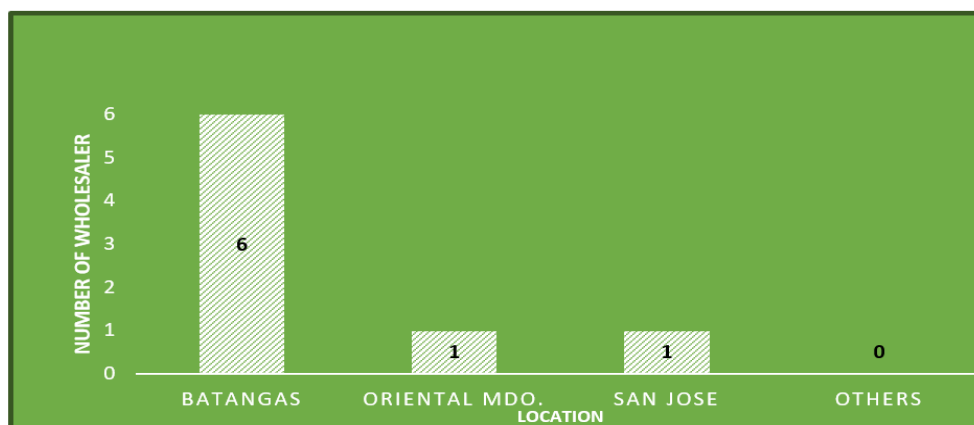


Figure 3. Source of Quail Eggs

Based on a survey conducted by the researcher with eight quail egg wholesalers, as shown in Figure 3, the quail egg market in the province of San Jose, Occidental Mindoro, relies heavily on Batangas as its main source of supply. To gain a deeper understanding of the quail egg supply chain in San Jose, Occidental Mindoro, Table 2 shows the quail eggs produced and distributed to the local market by the quail egg producers, to wit:

Table 2

Percentage and Frequency Distribution of Quail Eggs Per Week

SELLER	SOURCE OF QUAIL EGGS	ORDER VOLUME (PER BOX OF 100 PCS)	FREQUENCY	PERCENTAGE
Public Market #1	Batangas	10		
Public Market # 2	Batangas	10		
Public Market # 3	Batangas	30		
Liboro St #1	Batangas	50		
Liboro St #2	Batangas	50		
San Roque	Batangas	50	200	70%
Public Market # 4	San Jose	35	35	12%
Public Market #5	Oriental Mindoro	50	50	18%
Total			285	100%

Each box typically contains 100 pieces of quail eggs. In Table 2, the survey shows that all sellers received orders with a total of 285 boxes, or 28,500 pieces of quail eggs, each week. Based on 30 days, the total number of boxes distributed to wholesalers is 114,000 pieces per month. Hence, the projected annual supply in the province will be 1,368,000 pieces, or 13,680 boxes, for 2025. It represents the current supply of quail eggs ordered from Batangas, Oriental Mindoro, and San Jose, Occidental Mindoro. According to the survey, 70% of the quail egg supply in San Jose came from Batangas and 18% from Oriental Mindoro. Consequently, only 12% came from San Jose, Occidental Mindoro. Table 2 shows the results and tabulations of the survey conducted among vendors of commercial eggs in San Jose, Occidental Mindoro. The survey included only 15 vendors, primarily located in the commercial areas of San Jose, including public markets, grocery stores, cooperatives, and stores near the public markets. According to the survey results, the total eggs supplied were 8,220. Since the

proponent decided to start her organic egg production in 2025, a five percent increase was projected. The projected supply in 2025 will be 8,631. The current source of supply is Batangas, followed by 6,150 (75 percent), Oriental Mindoro (900), San Jose (750), and Manila (300). A meager 120, or 1.5 percent of the respondents, did not identify.

Supply and Demand Analysis - The demand-supply analysis examines the relationship between the number of quail eggs consumers are willing and able to buy (demand) and the quantity that producers are willing and able to sell (supply) at various prices (Mankiw, 2014; Cajayon et al., 2024).

Table 3

Demand and Supply Analysis of the Quail Eggs (In Boxes of 100 Pieces)

Year	Projected Demand	Projected Supply	Demand and Supply Gap	Unsatisfied Demand	Market Share
2026	19,500	14,501	4,999	26%	17%
2027	20,670	15,371	5,299	26%	21%
2028	21,910	16,293	5,617	26%	24%
2029	23,225	17,271	5,954	26%	27%
2030	24,619	18,307	6,312	26%	29%

Table 3 shows the projected annual demand of 19,500 boxes, with a forecast 6% yearly increase from the projected annual supply of 14,501 boxes, resulting in a demand and supply gap of 4,999 boxes of quail eggs, or 26% unsatisfied demand for the first year of operation, and remains consistent for the next succeeding years. Unsatisfied demand indicates a significant gap between what consumers want and what the market can currently provide. The market share is based on the proportion of the current supply that the proponent provides (Colesio et al., 2025). Since the proponent will purchase an initial 1,000 female quail birds, with a production rate of 80% that produce 800 pieces of quail eggs per day, and the start of quail egg laying will be the third month, it results in an annual production capacity of 240,000 pieces or 2,400 boxes based on 300 days. In this study, the proponent's annual production (2,400 boxes) divided by the projected supply (14,501 boxes) results in a conservative market share of 17% for the first year of operation. The second year of operation has an annual production of 3,240 boxes, divided by 15,371 boxes, which results in a 21% increase in market share. While the gap analysis shows that there is still considerable unmet demand, it creates potential for the proponent further to increase their market share in the next few years.

Marketing Strategies - The marketing strategy for this project aims to position the product as a high-quality, healthy, and flavorful alternative to traditional chicken eggs. Since quail eggs in the market are seasonal, the marketing strategy will employ a multi-channel approach, combining wholesale distribution with online marketing efforts. Offering convenient online ordering and delivery options creates a compelling social media presence that effectively promotes the quail eggs and drives sales. Moreover, samples will be provided during marketing for first-time buyers. As for the packaging of quail eggs, the proponent will use high-quality, eco-friendly materials with a clean and modern design. Clear and informative labels will showcase the brand and origin, promoting locally sourced quail eggs from San Jose, Occidental Mindoro. The packaging will be 100 pieces of quail eggs per box.

Product. The proposed quail egg production in Mapaya, San Jose, Occidental Mindoro, will focus on producing high-quality, fresh quail eggs, which are the primary product of this project. Initially, the proponent will purchase 1,000 ready-to-lay (RTL) female quail birds, sourced from Alejo Quail Farm in San Juan, Victoria, Oriental Mindoro. The proponent will be committed to ethical and sustainable farming practices, ensuring that the quail birds are raised in a healthy and humane environment. It means providing them with spacious housing, proper ventilation, a clean, balanced diet, and access to water. This commitment translates into eggs that are rich in

flavor and nutrients, making them stand out in the market.

Price. As the proposed quail egg production project is entirely owned and operated by the proponent, the business has the flexibility to offer competitive pricing, especially to wholesale customers. The direct control over the production and distribution process allows the proponent to offer a wholesale price of PhP 180.00 per box of quail eggs to the market. Each box contains 100 quail eggs. The price of the product will be based on the current market price, production costs, and the expenses of the proponent. This competitive pricing will make the product attractive to restaurants, retailers, and other businesses seeking high-quality quail eggs at an affordable price.

Distribution Channel. To ensure the highest quality and freshness, our quail eggs will be produced on the farm and distributed directly to our target market. The marketing will focus on wholesale distribution to public market vendors, restaurants, fast-food outlets, retail stores, groceries, and school canteens to ensure a consistent supply.

Promotion. The promotional strategy will focus on building awareness, establishing brand credibility, and generating excitement for the high-quality quail eggs. The proponent will utilize a multi-channel approach, combining traditional marketing with digital engagement and community outreach. This will include targeted outreach to wholesalers, participation in local farmers' markets and food events, and engaging social media such as Facebook and Messenger. By showcasing the health benefits of quail eggs, highlighting sustainable farming practices, and delivering exceptional customer service, the proponent aims to build a loyal customer base and establish local sources of high-quality quail eggs.

Product Description - The proposed quail egg production will focus on raising and feeding quail birds to ensure a continuous supply of fresh eggs, as well as egg collections for packaging and distribution to target customers. Quail eggs produced by the quail birds will be the main product of this project, which will be introduced to the market. A common weight for quail eggs is 10 to 15 grams. The quail breed known for its high egg-laying capacity and adaptability is the Japanese quail, scientifically known as *Coturnix japonica* and commonly referred to as pugo in the Philippines. The birds are characterized by their striking reddish-brown plumage, with white spots adorning their upper body. This is a popular choice for egg production, particularly in backyard flocks and small-scale farming, due to its ability to lay eggs for 12 months (Sugiyama & Sato, 2015).

Production Process - The production of quail eggs involves a multifaceted process that encompasses several key phases, beginning with breeding and raising quail birds and concluding with collecting and distributing the eggs. This process is characterized by its efficiency and relative simplicity, making quail egg production a viable option for small-scale agricultural ventures.

Quail Breeding and Raising. To start a project, the proponent will purchase 1,000 ready-to-lay (RTL) female quail birds from Alejo Quail Farm in San Juan, Victoria, Oriental Mindoro, which currently costs PHP 44.00 each, that is, a 25-day-old quail. The breeding of quails to be purchased will be Japanese quails. These quails are the most common breed used for commercial egg production, rapid growth, and adaptability. Female quails are known for their light-colored breasts and gentle and calmer behavior. A common size of a quail is 6-8" in length. They are small, prolific egg layers that reach sexual maturity remarkably fast. They typically begin laying eggs at around 6-8 weeks of age, a significant advantage over larger poultry like chickens. A healthy female can lay approximately one egg per day, accumulating around 300 eggs throughout her 2-3-year lifespan (Cuaresma et al., 2021). Quails are very easy to care for due to their small size. Raising quail chicks demands patience, particularly in the first couple of months, due to their vulnerability to cold and suffocation. After this initial period, management becomes easier and less labor-intensive. Quail egg production experiences a decline after 1.5-2 years of age (Downey et al., 2023).

Housing. Housing requirements are small and reasonably simple. Since high temperatures and humidity persist in local conditions, open-type poultry houses can be constructed for better ventilation. Providing an appropriate and comfortable environment influences egg production, disease resistance, and the overall success of raising quails. Housing is where the cage of the quail bird should be put up. Creating a sketch plan for a quail egg

farm's building structure is essential for efficient space management, which directly leads to increased production and provides a practical starting point for small-scale quail egg production.

Quail Cage. For a quail laying cage, the length dimension should be 4 by 8 feet for 500 quails. The proponent will build 2 cages for 1,000 quails. A well-designed cage is essential for successful quail egg production. While steel can be used, wooden cages are a more common and practical choice for construction. The cage floor is designed with a slope to make egg collection easier. The eggs roll into a designated collection area, eliminating the need to open the cage and risk the quails escaping. The floor of the cage is made of PVC green net or wire mesh, which allows quail droppings, like quail waste, to fall through the dropping tray and be collected easily. This promotes hygiene for the quails and lowers the chance of disease spreading due to uncleanness. Each cage has easily accessible built-in feeders and waterers, guaranteeing that every quail can eat and drink. The cages also make it easy for farmers to observe each bird closely, track their health, and quickly spot any issues.

Lighting and Ventilation. Solar lights are preferred because they help save energy and produce little heat, which allows quails to lay eggs properly and helps regulate temperature and reduce humidity. A 14-16-hour light cycle is maintained. Stress is a major factor affecting egg production in quails. Stress can be caused by various things, such as overcrowding, poor nutrition, loud noise, and sudden changes in the environment. A quiet, spacious location with adequate ventilation should be ensured.

Feeding and Watering. For feeding quails, they can be classified into starter (0–3 weeks), grower (4–6 weeks), and layer (7 weeks and onwards). The proponent will purchase 1,000 quails from Alejo's Quail Farm in Victoria, Oriental Mindoro. Upon arrival of 25-day-old quails, they should be placed in cages, and you should ensure that they drink water with electrolytes. Starter feed should be given to quails until they start laying eggs. Quails should have a free choice of food available at all times, or unlimited feed, because they have a fast metabolism and need to eat throughout the day. They should be given antibiotics to flush out any diseases that may have been contracted from airborne sources during travel and from the farm where they came from, to ensure their health and good conditions. It is necessary to ensure quails have consistent access to clean water, which is fundamental for achieving a balanced intake of protein, vitamins, and minerals. Implementing a reliable feeding and watering system is crucial in optimizing egg production (Purina Mills Inc., 2023).

Health and Disease Management. Regularly monitoring the flock for signs of disease or stress is essential for early detection and treatment. Implementing strict biosecurity measures is critical to prevent the introduction and spread of diseases. This includes quarantine protocols for new birds, regular cleaning, and disinfection of housing. Quail manure should be removed every day. Quail manure, while initially strong-smelling, can be dried and sold as fertilizer. A comprehensive approach to quail care, encompassing hygiene, environment, and nutrition, is essential. To safeguard against unexpected diseases like bird flu, access to farms must be controlled. Vigilant observation and determination of the cause of mortality are key to preventing further losses. The actual mortality rate of a specific flock of quails can vary depending on factors such as age, health, environment, and predation. The proponent estimates an annual mortality rate of 1% for the quails.

Egg Collection and Handling. Based on interviews conducted with local producers, quails usually lay eggs in the afternoon, from 1:00 p.m. to 6:00 p.m. The best time for egg collection will be 5:00 p.m. and will be done daily. The percentage of daily collection should be calculated, ranging between 70% and 90% of eggs from the total number of birds in lay, considering that the percentage varies with the age of the quails. The laying curve is more continuous and stable in quails than in hens, reaching peak laying in a shorter time, reaching 80% to 90%, and stabilizing over a longer period. Thus, the proponent expects to collect 800 quail eggs daily. Maintaining the quality and marketability of quail eggs necessitates careful handling from collection to storage. Cracked but unbroken eggs can still be used for cooking purposes. The broken eggs can be used as fertilizer in gardens or for composting. It can be fed to chickens, ducks, or other animals, providing them with additional nutrients. To minimize breakage, it is crucial to gather eggs frequently throughout the day. Immediately following collection, each egg should undergo a thorough cleaning and sanitization process to eliminate potential contaminants. This

ensures food safety and extends shelf life. For optimal freshness, especially when aiming for longer storage periods, refrigeration is strongly recommended.

Packaging. When it comes to packaging, a standard box is designed to hold 100 quail eggs. Each box incorporates a specialized divider, effectively creating individual compartments for each egg. This prevents eggs from bumping against each other during transport and storage, further reducing the risk of breakage. This organized packaging not only protects the eggs but also facilitates efficient handling and inventory management. Using dividers also helps to present the eggs in an organized and professional manner to customers.

Selling Process - The proponent, as a producer, sells quail eggs at PHP 180.00 per box to wholesalers or distributors, who then supply them to a wider range of businesses and retailers. The selling process requires careful attention to packaging, labeling, and transporting to maintain product quality and freshness, ensuring customer satisfaction and repeat business.

Table 4

Equipment, Furniture and Fixtures, Service Vehicles

Production Equipment	Life	Span	Quantity	Unit Cost (PhP)	Total Costs (PhP)
	(years)				
Dipper	5		3 pieces	10.00	30.00
Egg Collection Trays	5		5 pieces	100.00	500.00
Feed Storage Containers	5		2 pieces	500.00	1,000.00
Pressure Washer	5		1 piece	250.00	250.00
Solar Lights	5		4 pieces	1,000.00	4,000.00
Tray Boxes with Cover	5		5 pieces	300.00	1,500.00
Water Tumblers	5		3 pieces	150.00	450.00
TOTAL					7,730.00
Furniture and Fixtures	Life	Span	Quantity	Unit Cost (PhP)	Total Costs (PhP)
	(years)				
Long and Wide Table	5		1 unit	3,000.00	3,000.00
Plastic Chairs	5		3 units	400.00	1,200.00
Cabinet Drawer	5		1 unit	1,000.00	1,000.00
TOTAL					5,200.00
Service Vehicle	Life	Span	Quantity	Unit Cost (PhP)	Total Costs (PhP)
	(years)				
Tricycle (second-hand)	5		1 unit	35,000.00	35,000.00
TOTAL					35,000.00
Building	Life	Span		Total Costs (PhP)	
	(years)				
Housing	5				26,980.00
Caging System @ 2 units	5				9,885.00
TOTAL					36,865.00

Tables 4 and 5 show the production equipment that will be used on the farm for daily activities, such as feeding quails, cleaning the area, egg collection, and providing light for the production site. It also shows furniture and fixtures needed to provide a dedicated workspace for farm management. The service vehicle will be used to deliver the products, ensuring the timely and efficient delivery of fresh quail eggs to the distribution channels. The cost of housing structures and the cost of two (2) quail cages to be constructed in the proposed quail egg production are also presented. The farm supplies are needed for quail egg collection, handling, and

packaging for distribution to the public market of San Jose, Occidental Mindoro. Also, office supplies and materials are needed for record-keeping and monitoring farm production. Lastly, janitorial supplies are needed to clean the quail manure daily and maintain cleanliness, hygiene, and sanitation in the area.

Table 5*Supplies in Quail Egg Production*

Packaging Supplies	Monthly Quantity	Unit Price (PHP)	Total Price (PHP)	Annually (PHP)
Quail Eggs Box with Divider	240 boxes	5.00	1,200.00	14,400.00
Straw Packing String	1 roll	55.00	55.00	660.00
TOTAL			1,255.00	15,060.00

Cleaning Supplies	Quantity	Unit Price (PHP)	Total Price (PHP)	Annually (PHP)
Broom Soft	1 piece/ year	150.00	150.00	150.00
Broom Stick	1 piece/month	75.00	75.00	900.00
Dust pan	1 piece/year	95.00	95.00	95.00
Detergent powder	1 kilo/month	70.00	70.00	840.00
Detergent Bar	1 bar/month	28.00	28.00	336.00
Trash Bin	1 unit/year	100.00	100.00	100.00
Disinfectant	1 gallon/month	179.00	179.00	2,148.00
Brush	1 piece /month	20.00	20.00	240.00
Sprayer	1 unit /year	500.00	500.00	500.00
Face Mask	1 pack/month	32.00	32.00	384.00
Disposable Gloves	4 boxes/year	108.00	432.00	432.00
Alcohol	1 bottle/month	35.00	35.00	420.00
TOTAL				6,545.00

Office Supplies	Quantity	Unit Price (PhP)	Total Price (PhP)
Ballpen	1 box	168.00	168.00
Pentel Pen	1 box	130.00	130.00
Calculator	1 unit	750.00	750.00
Record Book	1 piece	135.00	135.00
Scissors	2 pieces	54.00	108.00
TOTAL			1,291.00

Location - A quail egg farm will be established in Sitio San Miguel, Mapaya, San Jose, Occidental Mindoro. The lot area, approximately 1,500 sq. m., is owned by the proponent. The place is spacious and surrounded by trees, adjacent to rice fields, which is ideal for relieving the quails from stress and disease. Because quails are susceptible to diseases like bird flu, the farm's rural location is crucial. The lower animal density in such areas minimizes the risk of disease outbreaks, which can impact the quality and production of a quail egg. This rural setting also provides a marketing advantage, allowing the eggs to be positioned as natural and farm-fresh.



Figure 4. Location of Quail Egg Production

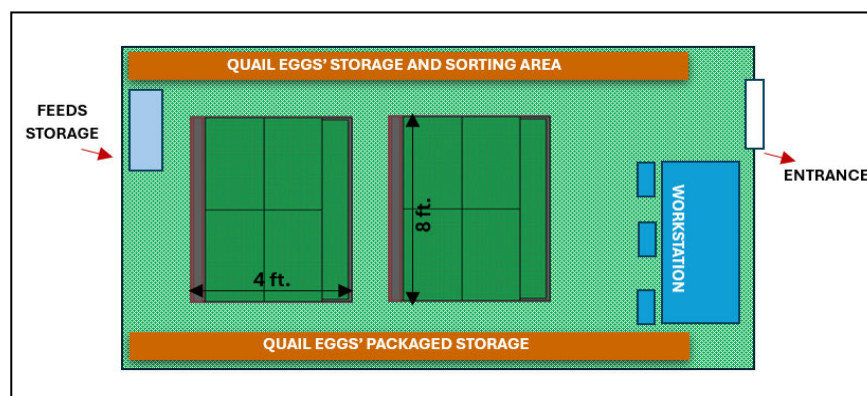


Figure 5. Floor Plan of a Quail Egg Production Structure

Creating a sketch plan for a quail egg farm's building structure is essential for efficient space management, which directly leads to increased production and provides a practical starting point for small-scale quail egg production. With a total structural area measuring 14 ft. by 24ft., it presents a significant opportunity for quail farming. This is due to the efficient design of the cages, each measuring 8 feet by 4 feet, which can house thousands of quails. The calculated lot area of 336 square feet demonstrates that even a small space can be highly productive. This efficient use of space makes quail farming a viable and potentially profitable business venture, even for those with limited land availability. The ability to concentrate a large number of birds in a small area reduces overhead costs associated with land acquisition and maintenance, making it an attractive option for aspiring entrepreneurs.

Production Capacity and Scheduling - The proposed quail egg farm has a production capacity of 800 quail eggs per day based on a flock of 1,000 Japanese quail. The projected productivity is based on the expectation that a significant portion, 80% of the quail flock, will lay eggs daily. The production schedule prioritizes maintaining a steady supply of eggs and meeting the demands of our local market. Table 6 shows the daily schedule for quail egg production. The business will operate seven days a week, from Monday to Sunday.

Table 6
Production Schedule

TIME	SCHEDULED TASKS
5:00 a.m.– 5:30 a.m.	Conducting farm visit
5:30 a.m.– 7:00 a.m.	Removing bird manure
7:00 a.m. – 7:30 a.m.	Feeding and watering
7:30 a.m. – 8:30 a.m.	Recording, packaging and delivering of quail eggs (if quails have already laid eggs)
8:30 a.m. – 9:30 a.m.	Cleaning the area of production
9:30 a.m. – 3:30 p.m.	Idle time
3:30 p.m. – 4:00 p.m.	Checking and monitoring the quails
4:00 p.m. - 5:00 p.m.	Feeding and watering
5:00 p.m. - 6:00 p.m.	Collecting eggs, grading and storing
5:00 p.m. – 7:00 a.m.	Lighting the production area

4. Organization and Financial Study

Forms of Business Ownership - The proposed quail egg production will operate as a single proprietorship, with the proponent serving as the sole proprietor. The initial capital will come from the proponent's savings. As the owner of this proposed project, the proponent will be responsible for all financial decisions, production activities, and marketing efforts, ensuring a direct link between the farm's success and its involvement.

Personnel and Manpower Requirements - The operation of the proposed project will be governed by the proponent, who will act as the manager. This small-scale project requires only one caretaker who will manage the growth of the 1,000 quails and be directly involved in caring for and feeding the quail birds.

Source of Financing - The proposed business will be structured as a sole proprietorship. The initial funding will come from the proponent's savings, with a total estimated cost of PHP 173,893.00 for the project. As the sole proprietor, the owner will have full control over all decision-making and will manage every aspect of the business operations.

Table 7
Project Cost of the Proposed Business

Items	Descriptions	Cost (In PHP)	Total Cost (PHP)
Facilities and Equipment	Housing and Caging System	36,865.00	
	Production Equipment	7,730.00	
	Furniture and Fixtures	5,200.00	
	Service Vehicle	35,000.00	84,795.00
Breeding Quails	Biological Assets (ready-to-lay or RTL female quails)	44,000.00	44,000.00
Direct Cost	Feeds	19,737.00	19,737.00
Pre-Operating Expenses	Packaging Supplies	1,255.00	
	Office Supplies	1,291.00	
	Cleaning Supplies	6,545.00	
	Utilities	800.00	
	Permits and Licenses	5,000.00	
	Transportation	3,000.00	
	Salaries and Wages	4,000.00	
	Premium and Other Benefits	970.00	
	Fuel	2,500.00	25,361.00
TOTAL PROJECT COST		173,893.00	

The total project cost of establishing a quail egg production is presented in Table 7. The initial project capital for 1,000 quails includes a housing structure and caging system, purchasing production equipment, furniture and fixtures, and a service vehicle. It also includes one-month supplies of feed, packaging supplies, fuel, and payment of utilities, as well as salaries and wages, premiums, and other employee benefits, excluding the 13th month's pay, which is given on the 12th month of the year. Annual expenses include permits and licenses, as well as the transportation costs of quails, office supplies, and cleaning supplies. The production will start in the second month of operation.

Financial Assumptions - The basic financial assumptions of this study are (1) the project will initially produce and meet a demand of 800 pieces per day in its first year of operation and increase by 17% annually. (2) The selling price of quail eggs will cost PhP 180.00 per box in the first year, increasing by PhP 10.00 annually. (3) Purchases of quail birds from producers are estimated to have an annual increase of PHP 1.00 per bird. (4) The production of quail eggs will start in the third month of the first year of operation. (5) Purchase of feeds is estimated to rise 17% yearly due to increased quail purchases. (6) Operating expenses such as farm and office supplies, cleaning supplies, utilities, fuel, and transportation expenses are estimated to increase by 5% per year. (7) Packaging supplies such as quail egg boxes and plastic straws are projected to increase by 17% per year. (8) Salaries, 13th-month pay, and mandatory government contributions will increase by 10% annually. (9) An additional two caging systems will be made for a new batch of quails, amounting to PHP 9,885.00 for 2026, with a useful life of 5 years, subject to depreciation expenses. (10) It is assumed that this small-scale project is registered as a Barangay Micro-Enterprise (BMBE) to qualify for income tax exemption. (11) The proponent, as producer, will purchase every year a new batch of quails to replace the retired quails and sell it as quail meat at PhP 15.00 per bird for the next succeeding year and increase by PhP 1.00 every year, and (12) personal withdrawal of the owner is estimated at 15% of the net income of the business.

5. Financial Projections

Financial Ratios and Analyses

Gross Profit Ratio. The gross profit ratio is a financial metric that measures a company's profitability by comparing its gross profit to its revenue. (Hakim et al., 2023). The projected gross profit ratios for quail egg production show a positive trend, indicating increasing profitability over the first five years. The initial ratio of 62% for the first year of operation suggests that the business is already generating a healthy profit margin. The increase to 63% for the second year indicates that this project is becoming more efficient in its operations, potentially due to economies of scale or improved production methods. The continued upward trend, from 66% to 69% over three to five years, shows that it is achieving further efficiencies and potentially benefiting from increased demand or favorable market conditions.

Net Profit Ratio. The net profit ratio analysis for this proposed project shows a strong and consistent upward trend, indicating increasing profitability over the first five years. A 27% projection for 2026, 37% for 2027, 44% for 2028, 49% for 2029, and 52% for 2030 presents a positive outlook for the future. The consistent increase in profitability indicates a well-managed and growing business (Corporate Finance Institute, 2025). This steady growth in profitability is a positive sign for the long-term viability of the proposed egg quail production. Moreover, the projection also suggests that the business is effectively managing its expenses and generating a healthy return on its revenue.

Return on Investment. Return on Investment (ROI) is a key performance indicator that measures the profitability of an investment. (Handayani & Winarningsih, 2020). The projected ROI for this quail egg production business demonstrates exceptional growth over the first five years, indicating a highly profitable venture. The projected ROI of 68% for the year 2026 suggests a strong return on the initial investment. The significant jump to 133% for the year 2027 indicates rapid growth and efficiency improvements in the business. The continued increase in ROI from 2028 to 2030, with ratios of 206%, 282%, and 362%, shows remarkable profitability and

potential for sustained growth.).

Socio-Economic Aspects - The proposed project benefits farmers, producers, retailers, distributors, businesses, consumers, the community, tourism, and the government. Quail egg production in San Jose, Occidental Mindoro, holds significant socio-economic potential, offering opportunities for income generation and household food security. The industry can diversify agricultural practices, create jobs, and support local food systems, all of which contribute to community development and boost the local economy.

6. SWOT and Potential Problem Analysis

Strengths - Strengths include a high demand for quail eggs due to their unique taste and health benefits, a relatively low investment cost compared to other livestock businesses, and the potential for quick returns on investment due to the quails' rapid growth cycle. Compared with chickens, quails have a rapid reproduction and maturity. Moreover, quails produce eggs consistently, ensuring a steady supply of eggs. Quail eggs offer a rich source of protein, vitamins, and minerals, attracting health-conscious consumers. It is also used in various dishes and cuisines, increasing their market appeal. Likewise, quail eggs have a longer shelf life than chicken eggs, reducing spoilage and waste.

Weaknesses - The business heavily relies on the local market for sales, making it vulnerable to changes in demand. Demand for quail products tends to be seasonal. Thus, it is challenging to maintain cash flow during off-peak seasons. Quail raising is labor-intensive, requiring regular handling of birds, eggs, and meat. Additionally, quails are sensitive to feed quality, and substandard feed can lead to health issues and decreased production.

Opportunities - Opportunities lie in growing consumer demand for healthier protein options, the potential for agritourism, and government support for sustainable agriculture. Business owners can expand their product line by selling live quail, quail meat, processed egg products, or specialized feeds, creating a unique selling point. Targeting potential markets beyond San Jose, such as neighboring municipalities, could increase sales and revenue.

Threats - The quail egg production business faces competition from other poultry businesses, making it challenging to stand out. The business relies on suppliers for feed and equipment, and any disruptions in the supply chain can impact profitability. The food industry is heavily regulated, and this proposed business must comply with various regulations. Moreover, quails are vulnerable to predators, which can impact production. Other production-related threats include disease outbreaks, fluctuations in feed prices, and environmental factors such as extreme weather conditions and natural disasters.

Potential Problem and Action Response - Potential problems include disease outbreaks, low egg production, and natural calamities such as typhoons, floods, and earthquakes. Solutions focus on implementing strong biosecurity measures, using high-quality feed, monitoring feed properly, providing proper housing for quails that includes adequate ventilation and shade, and developing detailed plans for responding to different disaster scenarios. This should include procedures for evacuating birds, securing equipment, and contacting relevant authorities. It is also recommended to obtain adequate insurance coverage to protect against financial losses from natural disasters.

7. Conclusions

The study's results suggest that quail egg production in San Jose, Occidental Mindoro, is a viable business opportunity with potential for profitability and social impact. Based on the study's findings, the proponent has drawn the following conclusions: There is a growing demand for quail eggs, as indicated by the respondents' interest and willingness to support the project. The proposed project can provide a quail egg supply in San Jose at a competitive price. The proposed project's strategic location offers a marketing advantage, allowing the quail

eggs to be positioned as natural and farm-fresh. Sole proprietorship is the ideal management type for this small-scale business. Quail egg production requires less space, a low investment cost, and a quick return on investment. The project has the potential to generate income for farmers, create jobs, and contribute to economic growth in San Jose, Occidental Mindoro.

7.1 Recommendations

Based on the findings and conclusions presented in this study, the proponent has made the following recommendations: The researcher strongly recommends that entrepreneurs proceed with the project due to its positive feasibility assessment. It is recommended to entrepreneurs and/or business owners to develop a robust marketing strategy to educate potential consumers about the benefits of quail eggs and to establish strong distribution channels. Implement training programs for staff to ensure they are well-equipped with the necessary skills for effective management and production practices. Entrepreneurs can develop a system for regularly monitoring and evaluating production processes and market conditions to adapt to changes and ensure sustained profitability. They can also incorporate sustainable farming practices to minimize the environmental impact of the production process and appeal to eco-conscious consumers.

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