



ANALYSIS OF THE FEASIBILITY STUDY OF CATFISH BREEDING BUSINESS IN SIPANGE GODANG VILLAGE

ANALISIS STUDI KELAYAKAN USAHA BUDIDAYA IKAN LELE DI DESA SIPANGE GODANG

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Abstract

The catfish hatchery business has quite good market opportunities due to the increasing public demand for catfish as a widely consumed food source. This study aims to analyze the feasibility of the catfish hatchery business in Sipange Godang Village in terms of non-financial aspects, financial aspects, and sharia principles. This study uses a descriptive research type with a qualitative approach. The research informants were three catfish hatchery entrepreneurs selected using a saturated sampling technique. Data were collected through observation, interviews, and documentation, then analyzed using the Miles and Huberman model. The business feasibility analysis was carried out based on legal, market and marketing, technical, management, socio-economic, environmental, and financial aspects using the Payback Period (PP), Break Even Point (BEP), and Revenue Cost Ratio (R/C Ratio) methods. The results of the study indicate that the catfish hatchery business in Sipange Godang Village is feasible to be run and developed. Viewed from the non-financial aspect, the business has fulfilled the legal, market and marketing, technical, management, socio-economic, and environmental aspects, although strengthening the business legality is still needed. From a financial perspective, the business is able to recoup its capital, sales are above the break-even point, and its R/C ratio is greater than 1, making it financially viable. Based on Sharia principles, the business is run honestly and free from *riba*, *maysir*, and *gharar*.

Keywords : Business Feasibility Study, Catfish Breeding, Financial Aspects, Non-Financial Aspects, Sharia Principles.

Abstrak

Usaha pembibitan ikan lele memiliki peluang pasar yang cukup baik karena meningkatnya permintaan masyarakat terhadap ikan lele sebagai sumber makanan yang banyak dikonsumsi. Penelitian ini bertujuan untuk menganalisis kelayakan usaha pembibitan ikan lele di Desa Sipange Godang dari segi



aspek non-finansial, aspek finansial, dan prinsip syariah. Penelitian ini menggunakan jenis penelitian deskriptif dengan pendekatan kualitatif. Informan penelitian adalah tiga pengusaha pembibitan ikan lele yang dipilih menggunakan teknik sampling jenuh. Data dikumpulkan melalui observasi, wawancara, dan dokumentasi, kemudian dianalisis menggunakan model Miles dan Huberman. Analisis kelayakan usaha dilakukan berdasarkan aspek hukum, pasar dan pemasaran, teknis, manajemen, sosial ekonomi, lingkungan, dan finansial menggunakan metode Payback Period (PP), Break Even Point (BEP), dan Revenue Cost Ratio (R/C Ratio). Hasil penelitian menunjukkan bahwa usaha pembibitan ikan lele di Desa Sipange Godang layak untuk dijalankan dan dikembangkan. Dilihat dari aspek non-finansial, usaha ini telah memenuhi aspek hukum, pasar dan pemasaran, teknis, manajemen, sosial-ekonomi, dan lingkungan, meskipun penguatan legalitas usaha masih diperlukan. Dari perspektif finansial, usaha ini mampu mengembalikan modalnya, penjualan berada di atas titik impas, dan rasio R/C-nya lebih besar dari 1, sehingga layak secara finansial. Berdasarkan prinsip-prinsip Syariah, usaha ini dijalankan secara jujur dan bebas dari riba, maysir, dan gharar.

Kata Kunci : Studi Kelayakan Usaha, Budidaya Ikan Lele, Aspek Keuangan, Aspek Non-Keuangan, Prinsip Syariah.

1. INTRODUCTION

The fisheries sector is one of the sectors that plays an important role in Indonesia's economic development because it not only functions as a food supplier, but also as a source of livelihood, employment absorption, and contributor to regional income.(Azizi et al., 2022)The role of the fisheries sector is becoming increasingly strategic as the public's need for safe, nutritious, and affordable food increases. In addition to contributing to meeting the need for animal protein, the fisheries sector also plays a role in increasing community incomes, creating jobs, and stimulating economic activity in rural areas through the development of small- and large-scale aquaculture businesses.(Haqiqiyansyah et al., 2024)One freshwater fishery commodity with significant potential is catfish (*Clarias gariepinus*). Catfish have a high protein content, grow quickly, are easy to cultivate, and are adaptable to relatively low-quality waters, making them highly sought after by the public.(Rossarie & La Goa, 2025).

Furthermore, catfish have a relatively short production cycle, a high survival rate, and can be raised using simple cultivation techniques. These characteristics make catfish a popular freshwater fishery commodity, both as a side business and as a primary business.(Nur Faisal, 2022)Public demand for catfish continues to increase along with the growth of culinary businesses, such as food stalls and restaurants, that feature catfish as a mainstay. This indicates that catfish farming has quite promising economic prospects.(Rahmadani et al., 2024)The rise in culinary businesses using catfish as a raw material has also driven the demand for high-quality, sustainably available seeds. Therefore, opportunities for developing catfish hatcheries remain wide open and have the potential to generate economic benefits for entrepreneurs.(R. Hidayat et al., 2024).

In North Sumatra Province, the per capita consumption rate of catfish per week during the 2020–2025 period tended to be stable, indicating that this commodity has a consistent market share and has the potential for continued development.(Center for Statistics, 2026). The stability of consumption levels indicates that the community has considered catfish a popular food source. This situation also provides an opportunity for the regions below it to increase aquaculture production to meet relatively stable market demand from year to year. However, conditions in South Tapanuli Regency show a different phenomenon. Catfish consumption in the region continues to fluctuate from year to year. Meanwhile, the fish consumption needs of the people of South Tapanuli Regency reach more than 15,000 tons per year, while local fish production is only able to meet around 50 percent of the total demand. This condition indicates a gap between community consumption needs and local production capacity, so that some fish needs are still supplied from other regions.(South Tapanuli Regency Fisheries Service, 2025).



Based on the population of South Tapanuli Regency of 328,964 people, (Body, nd) The public's fish consumption needs are estimated at 45.6 kg per capita per year, or approximately 0.87 kg per capita per week. This high consumption demand indicates that the fisheries sector still has significant potential for development. Although catfish consumption fluctuates, the high public demand for fish commodities overall indicates that the fisheries sector still has good prospects for development. This condition provides opportunities for aquaculture businesses to increase production capacity and expand market share. Efforts to meet this market demand depend not only on fish farming activities but also require strengthening the upstream sector through hatchery businesses. The availability of quality and sustainable seeds is a crucial factor in supporting the success of catfish farming businesses. Furthermore, hatchery businesses can be carried out relatively on a household scale because they do not require large areas of land and offer flexibility in management. (Laksmi & Taufiq Abadi, 2023)

The catfish hatchery business is a crucial link in the fisheries agribusiness system. The hatchery unit serves as a provider of quality seeds for use in the grow-out stage, ultimately producing edible fish. (Primary, 2022) The availability of sufficient, healthy seeds with a high survival rate will determine the overall success of a cultivation effort. Conversely, limited seed supplies often hinder farmers from meeting production needs. (Setiawan, 2023)

One area with potential for developing a catfish hatchery business is Sipange Godang Village, Sayurmatangi District, South Tapanuli Regency. However, of the approximately 40 members of the fisheries group, only three operate a catfish hatchery. Some of the challenges faced include limited capital, suboptimal marketing, the lack of structured financial records, the lack of business legality, and the lack of information on business feasibility that can be used as a basis for business decisions. (Basir, 2026)

Several previous studies have shown that the success of catfish breeding businesses is influenced by technical aspects, (Handayani, 2021) market, management, finance, (Lestari, 2021) and the application of Islamic economic principles. (W. Hidayat, 2025) However, research comprehensively examining the feasibility of catfish hatchery businesses based on non-financial, financial, and sharia principles in Sipange Godang Village is still limited. Based on this description, this study aims to analyze the feasibility of catfish hatchery businesses in Sipange Godang Village from a non-financial, financial, and sharia perspective.

2. RESEARCH METHOD

This study employed a descriptive qualitative approach. The study was conducted in Sipange Godang Village, Sayurmatangi District, South Tapanuli Regency, North Sumatra Province, from January to May 2026. Three catfish hatchery entrepreneurs were selected using a saturated sampling technique. Data collection was conducted through observation, structured interviews with open-ended questions, and documentation. Data validity was tested through increased diligence, source triangulation, and technique triangulation. (Sugiyono, 2022) Data analysis uses the Miles and Huberman model which includes data reduction, data presentation, and drawing conclusions. (Amrullah et al., 2022) The business feasibility analysis is conducted based on legal, market and marketing, technical, management, socioeconomic, environmental, financial, and sharia aspects. The financial analysis uses the Payback Period (PP), Break Even Point (BEP), and Revenue Cost Ratio (R/C) methods. (Chaniago et al., 2025)

3. RESULT AND DISCUSSION

1. Feasibility of Catfish Breeding Business Based on Non-Financial Aspects and the Maqashid Syariah Perspective

The research results show that the catfish hatchery business in Sipange Godang Village has quite good prospects based on non-financial aspects, although there are still several aspects that need to be improved. Regarding the legal aspect, all business actors do not yet have formal legality in the form of a Business Identification Number (NIB). However, the business is run on private land, has



never experienced any disputes, and receives support from the South Tapanuli Regency Fisheries Service through assistance with broodstock, feed, and extension activities. (Basir, 2026) This condition indicates that administratively, the business has not fully met the legal requirements, but operationally, it has received recognition and support from the local government. Business legality plays a crucial role in supporting the sustainability of business activities. Ownership of a Business Identification Number (NIB) not only provides legal certainty but also opens up opportunities for business actors to gain access to financing, government assistance, and micro-business empowerment programs. (Sastroadmodjo et al., 2025) The three informants' lack of business legality was due to a lack of information regarding permit procedures and the perception that their businesses were still small-scale. Nevertheless, the business owners expressed their willingness to manage legality if they received assistance from the relevant agencies. In a business feasibility study, legal aspects are fundamental to determining the long-term sustainability of a business. Having business legality provides legal protection for business owners and increases trust from external parties, such as financial institutions and government agencies. (Harahap, 2018) Although the catfish hatchery business studied does not yet have a Business Identification Number, the business's freedom from land ownership conflicts indicates that it has substantially fulfilled the element of asset security. From the perspective of maqashid sharia, this condition reflects the implementation of hifz al-mal. (Ismail, 2021). because certainty of land ownership can protect assets from potential disputes and losses in the future.

From a market and marketing perspective, the catfish hatchery business shows quite promising prospects. Demand for catfish fry is high and often exceeds available production capacity. Marketing reach has reached several areas outside Sayur Matinggi District, such as Sipirok, Batunadua, South Labuhanbatu, and Rantau Parapat. Marketing strategies remain simple, using WhatsApp, banners, and direct sales at business locations. (Sadat, 2026). Nevertheless, this promotional method has proven effective because it is supported by good seed quality and consumer trust. The high demand for catfish seeds indicates that the market opportunity for the hatchery business remains wide open. This is evident in the large number of breeders who place repeat orders for seeds. Even during certain periods, the number of incoming requests cannot be fully met due to limited production capacity. Current marketing strategies are still simple and rely heavily on good customer relationships. However, advances in information technology can be leveraged to expand marketing networks. The use of social media such as Facebook and other digital platforms has the potential to increase the number of consumers while introducing businesses to a wider audience. While this strategy is quite effective in retaining existing customers, the use of digital technology can be an alternative to increase business competitiveness. Promotion through social media allows businesses to reach consumers from a wider area at a relatively low cost. In addition, digital media can also be used to display seed quality, customer testimonials, and stock availability information periodically so that it can increase consumer confidence in the business being run. This finding is in line with the business feasibility study theory put forward by Kasmir and Jakfar which states that market and marketing aspects can be considered feasible if there is adequate demand, competitive prices, well-functioning distribution channels, and promotional strategies that are able to reach target consumers. (Kasmir & Jakfar, 2016) The large demand for seeds, which has not yet been fully met, indicates that catfish hatchery businesses still have the opportunity to increase production capacity. This situation also illustrates the potential market that can be exploited if business owners are able to improve their marketing strategies and increase production facilities. The use of digital media other than WhatsApp, such as Facebook and Instagram, can be an alternative for broader promotion at a relatively low cost. From a maqashid sharia perspective, the high demand for catfish seeds not only provides economic benefits for business owners but also supports the sustainability of the community's food supply through fish farming activities, thus aligning with the objectives of hifz an-nafs. (Mufid, 2018).

Technically, catfish hatchery operations are supported by adequate water resources, suitable land conditions, and fairly complete production facilities, albeit with rudimentary equipment. The



production process involves selecting broodstock, spawning, hatching eggs, raising larvae, and sorting the fry.(Suryadi, 2026)This demonstrates that the business owner has implemented systematic production processes, enabling them to produce high-quality catfish fry. Year-round availability of water is a key factor contributing to the success of the hatchery. Adequate and high-quality water can increase the hatching rate and increase the chances of larvae surviving to become marketable fry. Furthermore, the use of simple equipment demonstrates that the catfish hatchery can be run with relatively low investment requirements. From the perspective of the maqashid sharia (obligatory obligations of sharia), the technical aspects relate to the hifz an-nafs (obligatory obligations of sharia).(Mufid, 2018). because seed farming contributes to maintaining the availability of food for the community.

Management aspects indicate that the entire business is still managed independently by the owner without involving additional labor. Planning, implementation, and monitoring of the business are carried out routinely, such as managing feed requirements, providing regular feed, and monitoring seed conditions.(Sadat, 2026)However, all informants have not yet recorded their finances in writing, so their business administration remains rudimentary. This situation indicates that the managerial skills of business owners still need to be improved, particularly in preparing bookkeeping for more focused and easily evaluated financial management. Although the business is still managed independently, business owners have implemented basic management functions such as planning, implementation, and supervision in daily operational activities. Planning is carried out by determining spawning schedules, regulating feed requirements, and preparing production facilities.(Basir, 2026)However, the lack of financial records makes it difficult for business owners to determine the net profit earned in each production period. In a business feasibility study, a sound administration and bookkeeping system is a crucial indicator because it can help business owners evaluate business performance, control costs, and develop future business development plans.(Kasmir & Jakfar, 2016). From the perspective of maqashid sharia, this condition is related to *hifz al-mal* because unrecorded financial management has the potential to affect the accuracy of maintaining business assets. In addition, *hifz al-'aql*(Andiko et al., 2020)because business decision making requires more structured information management to be more rational and measurable.

From a socio-economic perspective, catfish hatchery businesses are not yet able to absorb labor, as all business activities are carried out solely by the owners. However, this business contributes to increasing household incomes and helps meet the seed needs of catfish farmers.(Suryadi, 2026). Thus, the existence of catfish hatchery businesses plays a role in supporting the sustainability of the freshwater fisheries sector in the research area. Although not yet able to create new jobs, catfish hatchery businesses still provide economic benefits to the surrounding community by increasing the income of business owners and providing a supply of seeds for grow-out farmers. The availability of seeds from within the region can also reduce dependence on suppliers outside the region, resulting in lower transportation costs and faster seed distribution. Thus, catfish hatchery businesses not only provide benefits for business owners but also contribute to the development of freshwater fisheries cultivation activities in South Tapanuli Regency. From the perspective of maqashid sharia, this condition is in line with *hifz al-mal* and *hifz an-nafs* because the business can improve economic welfare while supporting the provision of food sources for the community.

Environmental aspects indicate that catfish hatchery activities do not negatively impact the surrounding environment. The water source comes from rice field irrigation, and used water from maintenance is channeled into ditches without causing puddles or odors that disturb the community. Furthermore, the business location is far enough from residential areas that business activities do not generate complaints from the surrounding community. The absence of complaints from the surrounding community indicates that catfish hatchery activities remain within the limits of environmental carrying capacity. The use of irrigation channels as the primary water source also demonstrates efficient use of resources without disrupting other community needs. Furthermore, the hatchery business waste is relatively small and does not contain hazardous chemicals, thus preventing



environmental pollution.(Basir, 2026)This situation indicates that the catfish hatchery business can be categorized as an environmentally friendly business and has the potential for sustainable development. From the perspective of the maqashid sharia (Islamic principles), efforts to maintain environmental cleanliness are part of hifz an-nafs (the principle of social responsibility) because they relate to protecting public health and fall under the category of maqashid tahsiniyyat, which emphasizes the importance of maintaining environmental cleanliness and comfort.(Ismail, 2021).

Viewed from the perspective of maqashid sharia,(Ismail, 2021)The catfish hatchery business has fulfilled several key objectives of sharia. Clarity of land ownership and increased income of business actors reflect efforts to safeguard assets (hifz al-mal). Business activities that support the provision of fish seed as a food commodity are related to the protection of life (hifz an-nafs). Furthermore, the production process and transactions are conducted in a halal, transparent manner, and free from elements of usury, gharar, and maysir, thus aligning with the principle of safeguarding religion (hifz ad-din). The results of this study indicate that the maqashid sharia approach can be used as a complement in business feasibility analysis because it is able to assess the benefits of the business not only from an economic perspective, but also from social and spiritual aspects. The maqashid sharia approach provides a more comprehensive perspective than conventional business feasibility analysis. Business feasibility is not only measured by its ability to generate profits, but also by the extent to which the business is able to provide benefits to business owners, consumers, and the surrounding community. Through this approach, the catfish hatchery business is seen as not solely oriented towards achieving financial profit, but also plays a role in maintaining food sustainability, improving the welfare of the business owners' families, and conducting business activities in accordance with Sharia principles. Therefore, integrating business feasibility studies with the perspective of Maqasid Sharia can be a relevant alternative analysis model for developing Islamic economic-based fisheries businesses.

Financial Feasibility of Catfish Breeding Business

The financial feasibility analysis was conducted using the Payback Period (PP), Break Even Point (BEP), and Revenue Cost Ratio (R/C Ratio) methods. The results of these three indicators are presented in Table 1.

Table 1. Results of Financial Feasibility Analysis of Catfish Breeding Business

Indicator	Informant I	Informant II	Informant III
PP (Year)	0.053	0.027	0.051
BEP Unit (tail)	9,550	4,904	7,698
BEP Sales (Rp)	2,865,055	1,471,927	2,309,935
Actual Sales (tail)	30,000	30,000	25,000
Actual Revenue (Rp)	9,000,000	9,000,000	7,500,000
R/C Ratio	2.78	4.76	2.78

Source: Processed primary data, 2026.

Based on Table 1, all catfish hatchery businesses have a payback period of less than one year. This indicates that the business capital can be recovered relatively quickly. This rapid return on investment is influenced by high market demand, relatively low initial investment costs, and a routine production frequency of six times a year. The shorter the payback period, the lower the investment risk faced by the business owner.(Chaniago et al., 2025)The relatively short payback period indicates that the catfish hatchery business has a good ability to generate cash flow to cover the initial investment costs. This provides an advantage for business owners because the invested capital can be immediately reused to support the next production cycle.

The results of the Break Even Point analysis show that the actual sales volume of all informants was far above the break-even point that had to be achieved. Informant I only needed to sell a minimum of 9,550 fry to reach the break-even point, while the actual sales volume reached 30,000. Informant II



needed 4,904 fry but was able to sell 30,000, while Informant III needed 7,698 fry and managed to sell 25,000. This condition indicates that the catfish hatchery business has been able to cover all production costs and generate profits. Achieving sales volumes far exceeding the break-even point indicates that the catfish hatchery business has a fairly high level of business security (margin of safety). The greater the difference between actual sales and the break-even point, the greater the business's ability to face the possibility of a decrease in demand or an increase in production costs. (Kardini, 2024) Thus, the catfish hatchery business has a good chance of being maintained and developed on a larger scale.

Furthermore, all informants' Revenue Cost Ratio values were above one, ranging from 2.78 to 4.76. This value indicates that every Rp1.00 spent can generate revenue of Rp2.78 to Rp4.76. According to Kasmir and Jakfar, a business is considered feasible if its R/C Ratio value is greater than one. (Kasmir & Jakfar, 2016). Thus, the catfish hatchery business in Sipange Godang Village can be categorized as a business that is feasible to run and develop. The high R/C Ratio value obtained by the three informants indicates that the catfish hatchery business is able to generate income much greater than the costs incurred during the production process. The highest R/C Ratio value was held by Informant II, which was 4.76, which indicates that the efficiency of cost use in the business is relatively better than other informants. Differences in R/C Ratio values between informants can be influenced by variations in production costs, the number of seeds successfully sold, and the ability of business actors to manage their resources.

The findings of this study reinforce previous research that stated that catfish hatchery farming is a profitable business due to its high demand, relatively low operational costs, and short payback period. However, this study provides an additional contribution by integrating financial feasibility analysis with the perspective of maqasid sharia. This approach demonstrates that business success is measured not only by financial returns but also by its compliance with sharia principles, such as usury-free capital use, transparent transactions, and the business's contribution to meeting the community's food needs.

From the perspective of the maqashid sharia (Islamic principles), the financial analysis reflects the implementation of *hifz al-mal* (protecting wealth), as the business generates halal and sustainable income for the entrepreneur. The use of personal capital and the absence of interest-bearing loans demonstrate that the business activity avoids usury. Furthermore, seed sales transactions are conducted clearly regarding the quantity, price, and quality of the seeds, thus avoiding *gharar* (gharar) and fraud. The existence of the catfish hatchery also supports *hifz an-nafs* (protecting the soul) by contributing to the supply of seeds used to produce fish for consumption as a food source for the community.

Overall, the research results indicate that the catfish hatchery business in Sipange Godang Village is feasible to operate and develop, both from a non-financial and financial perspective. However, increasing production capacity, managing business legality, and implementing better financial records are necessary for the business to grow sustainably and achieve greater competitiveness.

4. CONCLUSION

1. The results of the study indicate that the catfish hatchery business in Sipange Godang Village is generally feasible based on non-financial aspects. Market and marketing, technical, environmental, and some socio-economic aspects have met the business feasibility indicators. Meanwhile, the management aspect is considered quite feasible because operational activities have been running well, but are not yet supported by adequate financial records. Meanwhile, the legal aspect is not fully feasible administratively because the business actor does not yet have formal legality in the form of a Business Identification Number (NIB). Viewed from the perspective of maqashid sharia, this business has reflected the principles of *hifz al-mal*, *hifz an-nafs*, and *hifz ad-din* through clear business ownership, the provision of fish seeds to support food security, and the implementation of a halal business that avoids elements of usury, *gharar*, and *maysir*.



2. Based on the financial analysis, the catfish hatchery business in Sipange Godang Village is declared feasible to be run and developed. This is indicated by the Payback Period (PP) value of all informants being less than one year, the actual sales volume being above the break-even point, and the Revenue Cost Ratio (R/C Ratio) being greater than one. These findings indicate that the catfish hatchery business is capable of generating profits, has a relatively low investment risk, and has the potential to be an alternative sustainable fisheries business. This study also provides an academic contribution by integrating business feasibility analysis with the maqashid sharia approach, so that the business feasibility assessment is not only oriented towards economic profit, but also considers aspects of social and environmental benefits, and compliance with Islamic economic principles.

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