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Perceived Influence of External Factors on Farmers' Decision to Engage in Sustainable Rabbit Production in Mallig Plain Region

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Abstract. This study studies the perceived influence of external factors on farmers' decisions to engage in sustainable rabbit production in the Mallig Plain Region of Isabela, Philippines. Rabbit farming has gained importance as a sustainable agricultural practice, particularly in response to challenges like the African Swine Fever (ASF) outbreak that affected traditional livestock. Utilizing a descriptive research design, data were collected from 109 rabbit farmers using a validated survey questionnaire. The study examines the impact of political, economic, social, technological, environmental, and legal (PESTLE) factors on rabbit farming. Key findings reveal that economic factors such as market opportunities and access to funding significantly influence farmers' decisions, while political factors like government subsidies also play an essential role. Additionally, technological advancements, environmental management, and compliance with legal regulations are influential in sustaining rabbit farming. The results suggest that with stronger governmental support, improved access to markets, and increased public awareness, rabbit farming can become a key contributor to local food security and sustainable development in the region.

Keywords: Rabbit farming; PESTLE analysis; Sustainable agriculture; External factors, Mallig plain region

1. Introduction

Agriculture is very important to the Philippines, representing 32% of its land use, comprising a big share in the national Gross Domestic Product at 10%, and employing 31% of the Filipino working population in 2013. Despite this important role, the said sector continuously struggles with the aforementioned difficulties alongside decreasing productivity, efficiency, and competitiveness. The livestock

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sector is a very significant component of Philippine agriculture and plays a very important role in the agricultural economy. Notably, animal production ranked highest among various sectors in total employment in 2016, emphasizing its significance in providing jobs and sustaining livelihoods (P.S.A., 2015, 2016; Galang, 2017). The gross output value of the Philippine Livestock Sector in 2019 reached 328.1 billion pesos, approximately 5.65 billion euros, accounting for around 18.23% of the total gross output value in agriculture that reached 1.8 trillion pesos during the same period. The major commodities in the production of livestock in the Philippines include swine, cattle, water buffalo, and goats. Additionally, there is a growing trend in the popularity and importance of sheep, horses, and rabbits within the sector (Ortega, A.D. et al. 2021).

Rabbit farming referred as cuniculture emerges as a sustainable income source for Filipino farmers. Cuniculture is an agricultural practice raising and breeding domestic rabbits as livestock for their meat, fur or wool. Rabbits are raised for various purposes, including their fur, as pets, and for their meat, which is recognized as a lean and healthy protein source. Through effective management, rabbit farming has the potential to contribute to the country's food security by offering a cost-effective protein source (Vera, J. et. al. 2023). The appealing aspect of relatively low initial investment coupled with the rapid reproduction rates of rabbits renders it an attractive option for both small-scale and large-scale farmers (pilmico.com). Rabbit production can be tremendously profitable if managed properly. It requires little room and can be done on a farm, in one's backyard, or even in a small space at home. Women and even children may take care of them. Rabbits are very easy and economical to feed and do not compete for grains with humans. They have a high production capability; medium-sized breeds that are good for meat production can be bred at 6 months old with a gestation period of only 28-32 days (Agriculture Magazine, 2017). Rabbit meat, which is also a high source of protein, is seen as a potential replacement for pork by the Department of Agriculture (DA) due to the challenges brought about by the coronavirus disease 2019 (Covid-19) pandemic and the African swine fever (ASF) outbreak to the hog industry in the Philippines. The disease known as a high-impact transboundary animal sickness has been hitting the swine production sector in the Philippines hard. Up-to-date, there's no vaccine or cure found. This troubling situation has led to an industry estimate where the national swine inventory took a hit of 36% reduction according to the Department of Agriculture in 2024. Due to the ASF outbreak in the Philippines

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affecting also the province of Isabela that causes the supply of pork decreases and its price increased, the Department of Agriculture with its different supporting agencies such as the Bureau of Animal Industry (BAI), Agriculture Training Institute (ATI), and Bureau of Agricultural Research (DA-BAR) is pushing the rabbit production as a source of income as well as the rabbit meat as an alternative meat source (Memorandum Circular no. 06 Series of 2023). Furthermore, due to the nutrient content of the rabbit meat and the importance of its by-product such as manure, rabbit farming and production is increasing based on the report of Philippine Statistics Authority, 2023. However, data of rabbit production in the province of Isabela and region 02 as a whole is still unavailable and despite of these government initiatives, the rabbit inventory remains relatively low when compared to leading livestock such as Hogs and Goats.

Therefore, there is a need to identify the factors that influence the development. of a sustainable rabbit production to overcome its challenges and constraints. This study aims to assess the perceived influence of external environment to sustainable rabbit production that can provide valuable insights into developing effective strategies and policies that can support the growth and sustainability of the production (Szendro et al., 2016)

2. Methodology

2.1. Research Design

This study employed a descriptive research design using a survey questionnaire. The questionnaire was divided into two sections: the socio-demographic profile and characteristics of the respondents, and the perceived level of influence of different external environmental factors (Political, Economic, Social, Technological, Environmental, and Legal) on the decision of rabbit farmers to engage in sustainable rabbit production. The questionnaire was validated by five (5) experts, including one (1) Animal Science professor from Isabela State University, one (1) Veterinary Medicine professor, and one (1) Agribusiness CBE professor from Nueva Vizcaya State University – Bayombong Campus, one (1) member/officer of the Nueva Vizcaya Rabbit Breeders Agriculture Cooperative, and one (1) English critic. A pilot test survey was administered to 30 rabbit farmers, utilizing both face-to-face and Google Forms. The overall Cronbach's Alpha registered at 0.974, indicating an excellent level of internal consistency.

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2.2. Respondents of the Study

The study's respondents were 109 rabbit farmers from the Mallig Plain Region in Isabela Province, distributed across the following municipalities: San Manuel (31), Roxas (28), Mallig (22), Quezon (17), Burgos (7), Aurora (3), and Quirino (1). The farmers were classified as backyard (2), small-scale (56), medium-scale (49), and large-scale farmers (2).

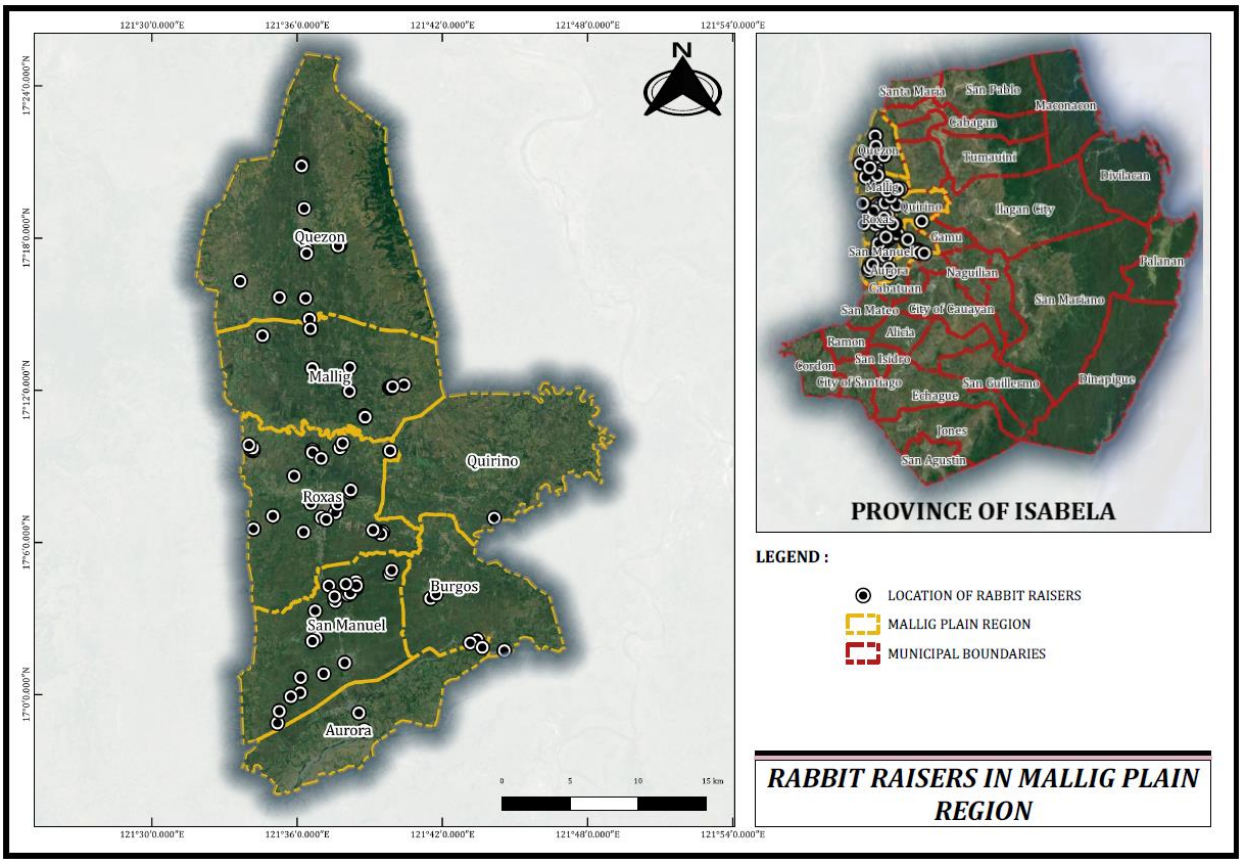

Figure 1 Respondents of the study

2.3. Data Gathering Procedure

Formal letters were sent to relevant agencies, including the Department of Agriculture (DA) Region 02, Agricultural Training Institute (ATI) Region 02, and the Provincial Veterinary Office in Isabela, to gather secondary data on local farmers and production. A request was also sent to the Cooperative Development Authority (CDA) Region 02 to obtain information on registered cooperatives involved in the rabbit industry. Survey questionnaires, specifically designed for rabbit farmers, were the primary tool for data collection. These surveys were distributed after receiving permission from

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local barangays and municipalities. Face-to-face interviews were conducted, and referrals were used to ensure that all rabbit farmers in selected municipalities were included. The questionnaire was validated beforehand to ensure reliability, and a pilot test was conducted with a sample group to refine the questions for better suitability.

2.4. Data Analysis

Descriptive statistics such as percentages and means were used to analyze the gathered data using the Statistical Package for Social Sciences (SPSS). All data were coded, tallied, analyzed, and presented in tabular form.

2.4.1. Sampling Procedure

Snowball sampling, specifically the chain-referral sampling technique, was used in the study. This method was chosen due to the unavailability of data from the Department of Agriculture (Local Government Unit and Regional Office), Office of the Provincial Agriculturist (OPAG), and Isabela Provincial Veterinary Office.

2.4.2. Respondents

The respondents of the study were 31 respondents from San Manuel, 28 from Roxas, 3 from Aurora, 22 from Mallig, 17 from Quezon, 7 from Burgos, and 1 from Quirino, totaling 109 rabbit farmers/producers from the Mallig Plain Region in Isabela Province, Philippines.

2.4.3. Research Site

The research site for the study comprised rabbit farmers and producers located in the Mallig Plain Region of Isabela Province, Philippines. The municipalities included in the Mallig Plain Region are Mallig, Quezon, Burgos, Quirino, San Manuel, Roxas, and Aurora (Figure 2).

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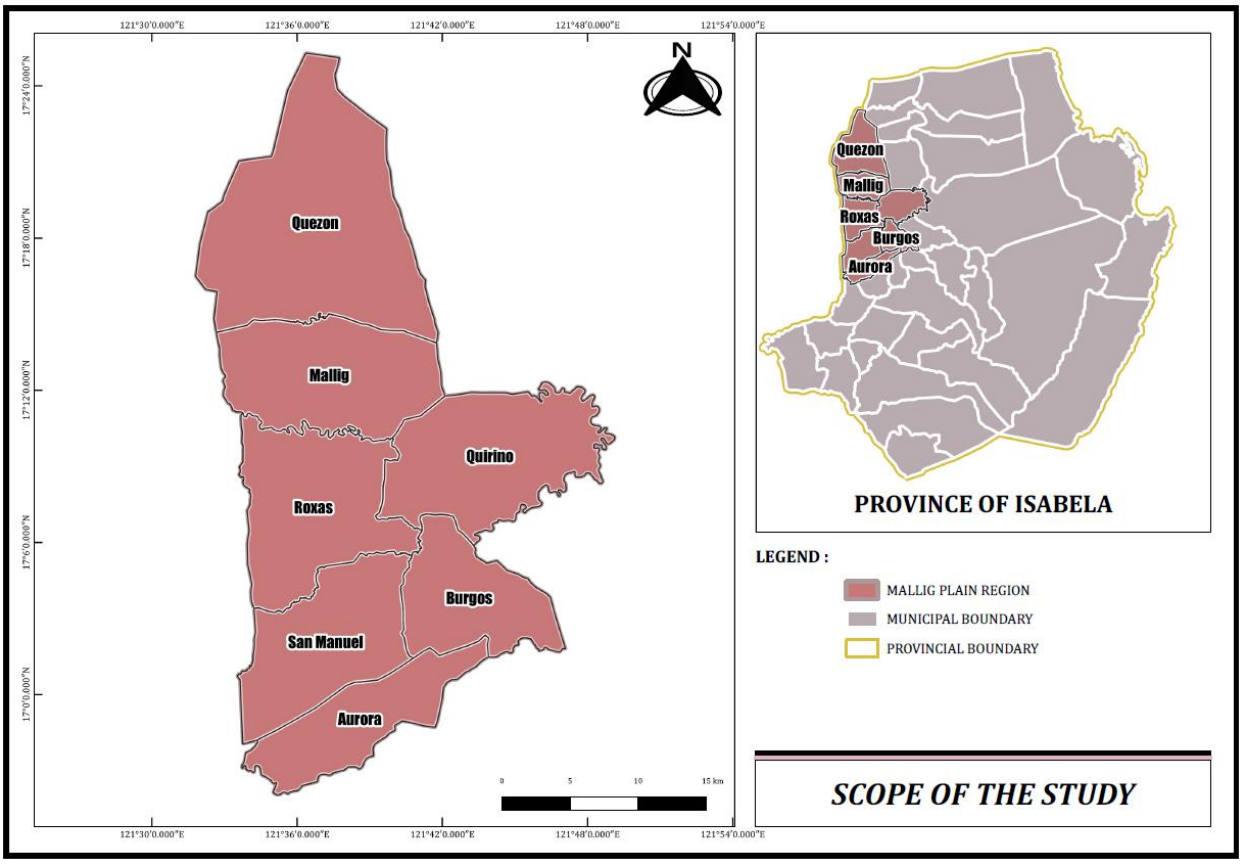

Figure 2 Research site of the study

3. Results and Discussion

3.1. Political Factors

Table 1 presents the perceived influence of political factors on farmers' decisions to engage in sustainable rabbit production. It highlights four determinants and their respective levels of influence.

Table 1 Perceived influence of political factors on farmers' decision to engage in sustainable rabbit production

Determinants	Mean	Descriptive Equivalent
1. Support programs like extension trainings from the government is one of the factors that influence my decision to engage in sustainable rabbit production. (PF1)	3.13	Influential

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2. Ethical Animal Treatment Considerations is one of the factors that influence my decision to engage in sustainable rabbit production. (PF2)	3.18	Influential
3. Subsidies to raisers and producers to limit the cost of production is one of the factors that influence my decision to engage in sustainable rabbit production. (PF3)	3.22	Influential
4. Research interventions given by the government is one of the factors that influence my decision to engage in sustainable rabbit production. (PF4)	3.17	Influential
Grand Mean	**3.18**	**Influential**

Note: Strongly Influential (3.25-4.0), Influential (2.5-3.25), Slightly Influential (1.75-2.5), Not Influential (1.0-1.75)

Most respondents rated the factors as either Influential (I) or Strongly Influential (SI), with the highest average score of 3.22 given to PF3, suggesting that subsidies to farmers are seen as slightly more impactful than the other factors. This supports the findings of Zou B., Mishra A.K., and Luo B. (2020), who highlighted that agricultural subsidies are among the most effective policies used by governments worldwide to support and promote agricultural development, while PF1, with the lowest mean score of 3.13, suggests that while government support programs may influence farmers, they are seen as having the least impact on farmers' decisions to engage in sustainable rabbit production compared to other factors. The overall mean score of 3.18 indicates that political factors are generally viewed as influential in farmers' decision-making, though not overwhelmingly so. Political factors, such as government policies on agricultural production, play a meaningful role in sustainable rabbit farming. This aligns with Lencucha et al. (2020), who found that government support—through inputs, outputs, and technical assistance—affects income and other outcomes in agriculture production.

3.2. Economic Factors

The table 2 outlines the perceived influence of economic factors on farmers' decisions to engage in sustainable rabbit production. It includes nine (9) determinants, each rated on a scale from Strongly Influential to Non-Influential.

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Table 2 Perceived influence of economic factors on farmers' decision to engage in sustainable rabbit production

Determinants	Mean	Descriptive Equivalent
1. Availability of market opportunities are factors that influence my decision to engage in sustainable rabbit production. (EF1)	3.3	Strongly Influential
2. Profitability is one of the factors that influence my decision to engage in sustainable rabbit production. (EF2)	3.17	Influential
3. Access to funding support is one of the factors that influence my decision to engage in sustainable rabbit production. (EF3)	3.26	Strongly Influential
4. Production Cost (Feed, Labor, Marketing, Health Care Cost, Equipment, Etc.) is one of the factors that influence my decision to engage in sustainable rabbit production. (EF4)	3.06	Influential
5. Higher pricing of rabbit by-products is one of the factors that influence my decision to engage in sustainable rabbit production. (EF5)	3.17	Influential
6. Market demand are factors that influence my decision to engage in sustainable rabbit production. (EF6)	3.00	Influential
7. Financial Planning is one of the factors that influence my decision to engage in sustainable rabbit production. (EF7)	3.14	Influential
8. Availability of breeding stocks and other inputs used in rabbit production is one of the factors that influence my decision to engage in sustainable rabbit production. (EF8)	3.23	Influential
9. Access to credit (when needed) is one of the factors that influence my decision to engage in sustainable rabbit production. (EF9)	3.02	Influential
Grand Mean	**3.15**	**Influential**

Note: Strongly Influential (3.25-4.0), Influential (2.5-3.25), Slightly Influential (1.75-2.5), Not Influential (1.0-1.75)

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The highest mean score, 3.3, is linked to the availability of market opportunities (EF1), which refers to favorable conditions that allow a business to enter and compete in a specific market segment. These opportunities provide businesses with a chance to leverage existing or emerging market conditions and gain a competitive edge. Access to funding support (EF3), with a mean of 3.26, is also seen as Strongly Influential. Financing is a key obstacle for smallholder farmers, as it limits their ability to acquire necessary inputs to boost crop yields and income. This aligns with the findings of Aminu et al. (2020), who emphasize that credit facilities and other forms of financial support should be made available through microfinance and financial institutions to help farmers expand their operations, increase livestock, and ultimately improve profits. Ayeni et al. (2023) also suggest that access to funding and credit boosts the revenue of rabbit farmers by increasing the amount of capital they can invest in their farming operations. This additional capital allows them to improve their production and profitability.

The remaining determinants mostly fall within the Influential category, with mean scores ranging from 3.0 to 3.23. Market demand (EF6), with a mean of 3.0, represents the lowest influence within the group. The overall grand mean of 3.15 indicates that economic factors are generally influential in shaping farmers' decisions regarding rabbit production.

3.3. Social Factors

The table illustrates the perceived influence of social factors on farmers' decisions to engage in sustainable rabbit production. Eight (8) determinants (SF1 to SF8) are analyzed, with respondents rating them as Influential.

Table 3 Perceived influence of social factors on farmers' decision to engage in sustainable rabbit production

Determinants	Mean	Descriptive Equivalent
1. Employment, labor cost, and availability of workers are factors that influence my decision to engage in sustainable rabbit production. (SF1)	3.12	Influential

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2. Community interest is one of the factors that influence my decision to engage in sustainable rabbit production. (SF2)	3.19	Influential
3. Health and nutrition of community are factors that influence my decision to engage in sustainable rabbit production. (SF3)	3.22	Influential
4. Family tradition or involvement is one of the factors that influence my decision to engage in sustainable rabbit production. (SF4)	3.16	Influential
5. Education and awareness of community are factors that influence my decision to engage in sustainable rabbit production. (SF5)	3.00	Influential
6. Level of acceptance on eating rabbit meat is one of the factors that influence my decision to engage in sustainable rabbit production. (SF6)	3.06	Influential
7. Cultural Considerations are factors that influence my decision to engage in sustainable rabbit production. (SF7)	3.01	Influential
8. Collaboration and affiliation with different agencies and individuals are factors that influence my decision to engage in sustainable rabbit production. (SF8)	3.07	Influential
Grand Mean	**3.10**	**Influential**

Note: Strongly Influential (3.25-4.0), Influential (2.5-3.25), Slightly Influential (1.75-2.5), Not Influential (1.0-1.75)

The highest mean score is for health and nutrition of community at 3.22 indicating that farmers give considerations to their community as they thrive in the production. According to the World Health Organization (WHO), health is not only the absence of disease but a state of complete mental and physical wellbeing in relation to the productivity and performance of an individual. Good nutritional status can only be realized and sustained when individuals within families and communities are food-secure. A well-nourished, healthy community is a pre-condition for sustainable development (FAO) while the lowest is for education and awareness of community. It may be categorized as the lowest determinant in social factor, it still perceived as influential by the farmers. Most determinants fall within the influential category, with mean scores ranging from 3.0 to 3.22.

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The grand mean of 3.1 suggests that social factors are generally influential in farmers' decisions to engage in rabbit production. Overall, social considerations are significant, though not overwhelmingly strong, in affecting their decision-making. This Supports the study of Huerta, A.R, et al (2019) that socioeconomic and political contexts exert a greater influence on the social performance of livestock production systems.

3.4. Technological Factors

The analysis of technological factors influencing rabbit farming reveals that all 11 determinants (TF1 to TF11) are generally considered influential, with an overall grand mean of 3.12, indicating that technology plays a significant role in rabbit farming operations.

Table 4 Perceived influence of technological factors on farmers' decision to engage in sustainable rabbit production

Determinants	Mean	Descriptive Equivalent
1. Use of Artificial Insemination (AI) is one of the factors that influence my decision to engage in sustainable rabbit production. (TF1)	2.98	Influential
2. Limited breeding procedures and technologies are factors that influence my decision to engage in sustainable rabbit production. (TF2)	3.05	Influential
3. Practice of using digital record keeping is one of the factors that influence my decision to engage in sustainable rabbit production. (TF3)	3.06	Influential
4. Housing technology like intensive housing care is one of the factors that influence my decision to engage in sustainable rabbit production. (TF4)	3.07	Influential
5. Availability and access to modern technologies are factors that influence my decision to engage in sustainable rabbit production. (TF5)	3.08	Influential
6. Quality of forage as substitute to feeds is one of the factors that influence my decision to engage in sustainable rabbit production. (TF6)	3.10	Influential

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7. Use of sanitation as disease management is one of the factors that influence my decision to engage in sustainable rabbit production. (TF7)	3.17	Influential
8. Biosecurity protocols are followed in farm is appropriately fenced, not allowing stray animals in, is one of the factors that influence my decision to engage in sustainable rabbit production. (TF8)	3.19	Influential
9. Limited feeding technologies are factors that influence my decision to engage in sustainable rabbit production. (TF9)	3.17	Influential
10. Advance feeding practices are factors that influence my decision to engage in sustainable rabbit production. (TF10)	3.17	Influential
11. Availability of new medicines and vaccines are factors that influence my decision to engage in sustainable rabbit production. (TF11)	3.30	Strongly Influential
Grand Mean	**3.10**	**Influential**

Note: Strongly Influential (3.25-4.0), Influential (2.5-3.25), Slightly Influential (1.75-2.5), Not Influential (1.0-1.75)

Most determinants fall within the "Influential" range (2.5-3.25), with the availability of new medicines and vaccines being particularly notable, receiving a high score of 3.3. Every farmer aims to keep their animals healthy, and vaccines are essential tools designed to trigger immune responses to specific pathogens, helping to prevent or reduce the impact of infectious diseases (Roth and Sandbulte, 2021). Vaccines offer a cost-effective way to control many livestock diseases (Nuvey et al., 2023), making them a key factor for farmers considering sustainable rabbit production.

Other important determinants, such as disease management through sanitation, biosecurity measures, limited feeding technologies, and advanced feeding practices, also received relatively high scores, ranging from 3.17 to 3.19, highlighting their significance. The lowest score, 2.98, was given to the use of Artificial Insemination (AI), although it still falls within the "Influential" range. This suggests that farmers in the area are aware of AI and may consider using it in the future.

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A significant portion of respondents rated technological factors as influential, especially in areas like limited breeding technologies, digital record-keeping, and the use of quality forage as a feed substitute, with over 40% of farmers acknowledging their impact. Overall, technological advancements are viewed as having a strong influence on rabbit farming. Modern technologies and digitization help livestock producers optimize their operations, create more efficient production systems, reduce environmental impact, lower production costs, and boost productivity.

3.5. Environmental Factors

Table 5 shows the environmental factors affecting rabbit farming, with ratings spread across four categories: Strongly Influential, Influential, Slightly Influential, and Non-Influential. The overall mean score for these environmental factors is 3.06, placing it within the Influential range (2.5-3.25). This indicates that environmental considerations play an important role in rabbit farming, significantly influencing farmers' decisions and practices.

Table 5 Perceived influence of environmental factors on farmers' decision to engage in sustainable rabbit production

Determinants	Mean	Descriptive Equivalent
1. Land use and habitat impact are factors that influence my decision to engage in sustainable rabbit production. (EF1)	3.04	Influential
2. Waste Management are factors that influence my decision to engage in sustainable rabbit production. (EF2)	3.13	Influential
3. Water Usage is one of the factors that influence my decision to engage in sustainable rabbit production. (EF3)	3.17	Influential
4. Feed Sourcing and Agriculture are factors that influence my decision to engage in sustainable rabbit production. (EF4)	3.07	Influential
5. Energy Consumption (Lighting, ventilation, heating and cooling) is one of the factors that influence my	2.98	Influential

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decision to engage in sustainable rabbit production. (EF5)		
6. Sustainability and Eco-friendly Practices are factors that influence my decision to engage in sustainable rabbit production. (EF6)	2.97	Influential
7. Rabbit production's environmental impact is one of the factors that influence my decision to engage in sustainable rabbit production. (EF7)	3.04	Influential
Grand Mean	**3.06**	**Influential**

Note: Strongly Influential (3.25-4.0), Influential (2.5-3.25), Slightly Influential (1.75-2.5), Not Influential (1.0-1.75)

Water usage, with the highest mean score of 3.17, is seen as the most influential environmental factor in rabbit farming. Gaurav Jain and James Singh (2023) emphasized that water is essential for animal survival, as animals can go longer without food than without water. A significant amount of water is needed at every stage of growth, making it crucial to provide animals with constant access to drinking water. Water is vital for maintaining ion balance, body fluids, nutrient absorption, digestion, metabolism, and waste elimination.

Close behind is waste management, with a mean score of 3.13. Concerns about animal waste include its potential to release large amounts of CO2 and ammonia, contributing to acid rain and the greenhouse effect. It can also pollute water sources and spread infectious diseases (Parihar et al., 2019). Poor waste management can lead to fecal contamination of water through agricultural runoff, making it a significant factor influencing farmers' decisions to pursue sustainable rabbit production. Feed sourcing was also perceived as an influential having a rating of 3.07. Nutrient-rich feed, particularly in protein and energy, is essential for promoting the growth, reproduction, and overall health of rabbits.

A small portion of respondents rated some factors as Slightly Influential or Non-Influential, with Energy Consumption (Lighting, ventilation, heating and cooling), sustainability and Eco-friendly Practices, and Rabbit production's environmental impact showing slightly higher percentages of these responses, but they remain in the minority. Overall, environmental factors are perceived as influential, with some variability in the degree of influence across specific determinants.

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3.6. Legal Factors

The table 6 shows the perceived level of influence of legal factors affecting sustainable rabbit farming categorized into four levels: Strongly Influential, Influential, Slightly Influential, and Non-Influential. Each factor is assessed through percentages and a mean score, with the corresponding descriptive equivalent.

Table 6 Perceived influence of legal factors on farmers' decision to engage in sustainable rabbit production

Determinants	Mean	Descriptive Equivalent
1. Animal Welfare is one of the factors that influence my decision to engage in sustainable rabbit production. (LF1)	3.17	Influential
2. Environmental Regulation is one of the factors that influence my decision to engage in sustainable rabbit production. (LF2)	3.19	Influential
3. Food and Safety Standards are factors that influence my decision to engage in sustainable rabbit production. (LF3)	3.17	Influential
4. Slaughter and Processing Regulations are factors that influence my decision to engage in sustainable rabbit production. (LF4)	3.08	Influential
5. Worker Safety Regulations are factors that influence my decision to engage in sustainable rabbit production. (LF5)	3.08	Influential
Grand Mean	**3.14**	**Influential**

Note: Strongly Influential (3.25-4.0), Influential (2.5-3.25), Slightly Influential (1.75-2.5), Not Influential (1.0-1.75)

Environmental regulations were seen as the most influential legal factor in rabbit farming, with a high mean score of 3.19, indicating that farmers take these regulations seriously when producing rabbit products. Animal welfare and food safety standards also had significant influence, with a mean score of 3.17. This suggests that farmers prioritize animal welfare and good production practices in line with the Philippine Animal Welfare Act (R.A. 10631) and the Rabbit Code of

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Practice for slaughtering (SO No. 817, 2021). Food safety is also a priority, as farmers adhere to the Food Safety Act of 2013 (R.A. 10611), ensuring that rabbit meat, known as "lapan" is produced and distributed safely.

Slaughter and processing regulations, with a mean of 3.08, were also considered influential. Farmers follow the Department of Agriculture's guidelines (Administrative Order No. 35, 2021), which focus on ethical and sanitary slaughtering practices for rabbits intended for human consumption. Worker safety regulations, scoring 3.08, were likewise seen as influential, emphasizing the importance of safe working conditions in rabbit farming. This aligns with the Philippine National Standard for Good Animal Husbandry Practices (GAHP), which ensures farm workers are provided with protective gear, clear accident procedures, first aid kits, and fire extinguishers on the farm.

The grand mean across all legal factors is 3.14, meaning that respondents generally perceive these factors as influential. The descriptive equivalents of Influential for all items align with this assessment, as the means fall within the range of 2.5 to 3.25, per the defined scale.

4. Conclusions

The study revealed that several external factors—political, economic, social, technological, environmental, and legal—play a significant role in influencing farmers' decisions to engage in sustainable rabbit production in the Mallig Plain Region. Political factors, such as agricultural subsidies, were found to be particularly influential, suggesting that government financial support can strongly affect farmers' choices. Similarly, economic factors like access to market opportunities and funding were rated highly, underscoring the importance of financial support and market access in promoting sustainable farming. Social considerations, such as the health and nutrition of the community, also emerged as influential, though educational awareness within communities was perceived as less impactful, signaling a need for further improvement.

Technological factors were highlighted, with advancements like vaccines and biosecurity measures playing a significant role in disease management and productivity. However, limited adoption of certain technologies, such as artificial insemination, suggests that there is room for further expansion of modern

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farming practices. Environmental concerns, particularly water usage and waste management, were identified as important factors in sustainable rabbit farming, reflecting the growing awareness of environmental impacts. Legal factors, including regulations on animal welfare and food safety, were also influential, indicating that farmers take compliance seriously when considering production practices.

Based on these findings, several recommendations can be made. First, increasing agricultural subsidies and improving access to market opportunities and financial support would incentivize more farmers to engage in sustainable rabbit production. Expanding educational outreach programs to raise awareness about the social and health benefits of rabbit farming is also important. Additionally, promoting the adoption of advanced technologies and improving environmental management practices, particularly around water usage and waste disposal, will enhance sustainability. Finally, ensuring continued compliance with legal standards, such as those related to animal welfare and food safety, will further support the growth of the industry. In conclusion, while farmers recognize the influence of external factors, there is a clear opportunity to strengthen weaker areas, such as technological adoption and community education, to drive further progress in sustainable rabbit farming.

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