

ASSESSMENT OF NATIVE AND WILD PIG LOCAL PRODUCTION SYSTEM IN WESTERN LEYTE, PHILIPPINES

Leonie Guil Coronel¹, Jade Dhapnee Z. Compendio^{1,*}, Karen Luz Yap¹ and Masahide Nishibori^{1,2}

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Abstract

The Philippine Native Pig (*Sus scrofa domesticus* L.) is an important component of rural livelihoods in the Philippines because of its adaptability, disease resilience, and minimal resource requirements. This study assessed the native and wild pig production system in Western Leyte, focusing on the raisers background, production systems, and economic viability. A structured interview survey method was utilized for the twenty-three (23) native and four (4) wild pig raisers. The result showed middle-aged married males with varying educational backgrounds predominantly undertake pig raising. The study also revealed that native pigs were tethered and fed on locally available resources like rice bran and foraged materials, reducing feeding costs and enhancing sustainability. Native pigs are a good fit for low-input farming systems because of their excellent piglet survival rates and great mothering ability. Because native pigs have a high market value for their flesh, native pig farming is a financially feasible source of additional income. These pigs have a big cultural impact on customs and celebrations that strengthen a community's identity and legacy. This study suggests encouraging native pig farming through focused interventions, educational activities, and market development plans that can improve rural livelihoods, maintain customs, and aid in the region's sustainable agricultural growth.

Keywords: Philippine Native Pigs; Western Leyte; Pig Raisers; Sustainable Production Practices; Rural livelihoods

¹ Visayas State University, Baybay City, Leyte 6521, Philippines. E-mail: jadecompendio@vsu.edu.ph

² Hiroshima University, Higashihiroshima, Hiroshima 739-8511, Japan.

* Corresponding author

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Introduction

Philippine native pig (PNP) is an indigenous swine breed often raised in small-scale and backyard farming systems. These pigs are important to rural communities, since they promote cultural continuity and are often used in traditional rituals, festivals, and feasts, reinforcing their role in preserving cultural heritage. For many Filipino households, raising native pigs is a significant source of supplementary income. Due to its unique texture and flavor, its meat often commands higher market prices than commercial pork. Philippine Native Pigs contribute to household food security by providing a reliable source of protein, additional income, and hold cultural significance in many Filipino communities. PNPs are highly adaptable to local environmental conditions, parasite, and disease resistant and require low inputs. These pigs thrive on minimal and locally available resources, often subsisting on agricultural by-products, kitchen scraps, and foraged materials. This foraging ability reduces feeding costs and integrates well with traditional farming systems where feed resources are often limited. Moreover, their reproductive efficiency under extensive management conditions is notable, with sows demonstrating good mothering abilities and piglets exhibiting high survival rates.

Moreover, PNP's adaptability to local conditions, resilience to diseases, and ability to thrive on minimal and locally available resources, differ - from commercial breeds, which require intensive care and feeding. In addition, PNP is well-suited to the tropical climate and traditional farming systems prevalent in the country. Their hardiness and foraging ability make them a sustainable option for farmers with limited resources. Moreover, understanding the demographic characteristics, production management practices, and economic viability of native pigs is essential for generating valuable insights and practical strategies to strengthen resilience and development of this important agricultural sector. Therefore, it is necessary to assess the current state of the Philippine native pigs production systems, examine their unique features and economic aspects, and propose practical recommendations that will enhance rural livelihoods, safeguard cultural heritage, promote sustainable farming practices, and contribute to the overall advancement of native pig production in the Philippines.

Methodology

This study utilized an interview-survey approach to gather data from native pig and wild pig raisers in five towns in Western Leyte, Philippines. The 23 native pig raisers and 4 wild pig raisers were the key informants in this study using convenience and snowball sampling technique, primarily due to the limited availability of native pigs in the area. In addition, the survey design employed structured questionnaires administered through interviews, allowing for a standardized data collection process. This approach ensured the systematic collection of relevant information from each participant, thereby improving the reliability and comparability of the data. In addition, all data were subjected to descriptive analysis using R statistical package. This analytical method allowed the researchers to effectively summarize key findings and uncover patterns or trends in the responses of the pig raisers.

Results and Discussion

Socio - demographic Profile of the Respondents

Table 1 indicates that males constitute majority of native pig raisers (70%), with females accounting for the remaining 30%. The result of this study is congruent with Ordanel *et al.* (2024), who also reported more male Sinirangan native pig raisers (60.87%) as compared to females (39.13%). Other studies also reported the disparity between male and female PNP raisers (Villanueva and Sulabo, 2018; Falculan, 2021; Yarte *et al.*, 2021; Artiza *et al.*, 2022). This disparity could be due to the nature of work and the physical demand raising native pig requires. Moreover, the marital status of respondents shows that 87% are married, 9% are single, and 4% are widowed. This result suggests a predominantly married population involved in native pig production. However, the age distribution of farmers is also noteworthy, with an average age of 46 years, and ranges from 29 to 63 years old. Based on the age structure, 78% belong to the prime working age, while the remaining 22% belong to the mature working age. This age distribution indicates that native pig raisers in the Philippines are still relatively young and not yet experiencing signs of an aging population. To encourage sustainability in swine raising, campaigns or programs should highlight it as a viable livelihood option, particularly targeting

younger generations. This involves making agriculture appealing and accessible by integrating agricultural topics into school curriculums, organizing workshops, providing financial support through grants and scholarships, and offering internships with experienced farmers (Secretario, 2021). Establishing youth farming groups, showcasing success stories through media, and advocating for supportive government policies can further inspire young people to pursue agricultural careers. Providing training (Department of Education, 2002) and capacity-building programs for swine raisers can enhance their skills in pig management, breeding, and disease prevention. In addition, advocating for policies that support the swine industry, including biosecurity, animal welfare, and fair-trade practices, is necessary.

Furthermore, majority of respondents in the study have completed elementary education (35%), followed by high school graduates (22%), and an equal percentage of elementary and high school undergraduates (13% each). Additionally, 9% are college graduates, while 4% are college and postgraduate levels. This distribution highlights the diverse educational backgrounds of pig raisers in Western Leyte, which may significantly influence their approach to farming practices and the adoption of new technologies. According to Shiferaw *et al.* (2008), one factor that affects farmers' adoption of certain technologies is educational attainment. For instance, those with higher education levels might be more inclined to explore innovative farming methods and technologies, while those with lower education levels might rely more on traditional practices. Understanding these educational dynamics is crucial

for designing effective extension programs and interventions that cater to pig raisers' varying needs and capacities in Western Leyte. The stakeholders have a significant role in narrowing the gap between the laggards and innovative people, fostering a more inclusive and sustainable agricultural sector in Western Leyte, Philippines. Several strategies are needed to address the gap between laggards and creative individuals in pig raising. Extension programs should be tailored to different educational backgrounds and technological adoption levels (Feder and Umali 1993), offering basic training for laggards and advanced training for innovators. Knowledge-sharing platforms, such as farmer field schools or demonstration farms, can be established to showcase innovative practices and provide mentorship opportunities for laggards (Ashby, 2009). Ensuring access to information and resources for all farmers, regardless of educational background, can be achieved through farmer cooperatives, agricultural extension services, or digital platforms (Davis *et al.*, 2012). Peer learning networks can facilitate idea exchange and collaboration among farmers of different backgrounds, fostering knowledge sharing and innovation (Bebbington, 1999). Incentivizing and recognizing innovative practices can motivate laggards to adopt new technologies, including awards, grants, or access to markets that value sustainable practices (Suri, 2011). Moreover, advocating for policies that support technology adoption and innovation, such as subsidies or regulations promoting sustainability, can create an enabling environment for farmers to embrace change and overcome barriers to adoption (Spielman and Pandya-Lorch, 2009).

Table 1. Socio-demographic Profile of the Native Pig and Wild Pig Raiser in South-western Part of Leyte

	Native Pig Raisers (n=23)	Percentage (%)	Wild Pig Raisers (n=4)	Percentage (%)
Gender				
Female	7	30 %	1	25%
Male	16	70 %	3	75%
Civil Status				
Single	2	9%	1	25%
Married	20	87%	3	75%
Widowed	1	4%		
Educational Attainment				
Elementary level	8	35%	1	25%
Elementary Graduate	3	13%		
HS level	5	22%		
HS Graduate	3	13%	1	25%
College Level	1	4%		
College Graduate	2	9%	2	50%
Graduate Degree	1	4%		
Age Structure				
Prime Working Age (25-54 years)	18	78%	4	100%
Mature Working Age (55-64 years)	5	22%		
Annual Estimated Income from Native Pig raising (Php)				
Less than 50,000	3	13%		
50,000 – 60,000	17	74%		
More than 60,000	3	13%		

Background of Native Pig Raisers

The result in Table 2 indicates that 35% of farmers began raising pigs between 2016 and 2019, while 26% started between 2012 and 2015. A smaller percentage (13%) began before 2000, with 9% between 2004 and 2007 and 4% between 2000 and 2003. Interestingly, 48% of farmers started their business with less than ₱1,000, suggesting a low initial capital investment in native pig production. In contrast, 17% started with ₱4,000 or more, indicating a more significant financial commitment. The study also found that most farmers sourced their pig stocks from neighboring towns (39%) and VSU-DAS (35%), indicating a reliance on local sources. Additionally, most farmers (74%) have only one sow, while 17% have two sows, and 4% each have three and four sows. In terms of litter size, most of the pig raisers have eight piglets per litter (48%), followed by seven (26%), nine (13%), six (9%), and ten (4%). Income sources, farming, and

family financial support, provided by working through remittances, are the primary sources for 35% of each of the farmers, while 22% rely on business income. Fewer farmers earn income from carpentry (4%) and their profession (4%). These findings of the study also suggest diverse range of practices and experiences characterized by pig raising in Western Leyte. The low initial capital investment required to start a pig-raising business indicated that it is accessible to many farmers, including those with limited financial resources. Moreover, reliance on local sources for pig stocks and the predominance of small-scale operations with one or two sows highlight the importance of regional networks and resources in pig raising. Moreover, these findings are essential for policymakers, agricultural extension workers, and other stakeholders about the dynamics of pig raising in the area and help them develop targeted interventions and support programs for farmers.

Table 2. Background of Native Pig Raisers in South-western Part of Leyte

	Raisers (n=23)	Percentage (%)
Year Started in Native Pig Raising		
Before 2000	3	13%
2000- 2003	1	4%
2004-2007	2	9%
2008-2011	3	13%
2012-2015	6	26%
2016-2019	8	35%
Starting Capital		
Below 1,000	11	48%
1,000	2	9%
2,000	3	13%
3,000	3	13%
4,000 and above	4	17%
Origin Source of Stock		
Borongan, Samar	1	4%
Masbate	1	4%
VSU- DAS	8	35%
Cabaliwan Native Pig Farm	2	9%
Maasin	1	4%
PCIC	1	4%
Neighboring Barangay	11	39%
No. of mother stocks (sow)		
1	17	74%
2	4	17%
3	1	4%
4	1	4%
No. of litters per sow		
6	2	9%
7	6	26%
8	11	48%
9	3	13%
10	1	4%
Other Sources of Income		
Farming	8	35%
Carpentry	1	4%
Business	5	22%
Profession	1	4%
Family Financial Support	8	35%

Production Practices

Rearing Management and Housing Type

The result of this study revealed that majority of native pigs (61%) and wild pigs (50%) were all kept in cages or pens. Respondents noted that native pigs are resilient and can endure diverse weather conditions, even thriving without housing. Conversely, wild pig raisers prefer to house them in secure concrete cages due to their aggressive nature. Wild pigs destroy light housing materials and jump fences up to 1.5 meters high. Once outside their enclosure, they can damage crops as they primarily feed on plants. This behavior has historically deterred people from domesticating wild pigs. Table 3 shows that most native pig raisers (61%) adopt a tethered rearing system. Some kept native pigs in cages (22%), using GI sheets (60%) as roofing material and thatch (40%). On the other hand, wild pigs are also kept in cages (50%), combination types (25%), and tethered (25%).

Common Native Pig Disease and Treatment

This study found no disease prevalence among the native pig population in the study area. However, respondents indicated their awareness of potential diseases and willingness to use organic treatments. In the event of a possible disease outbreak, most respondents stated that they would use herbal medicine, particularly guava leaves as treatment, which is similar to the findings of Mesia *et al.* (2008) in Western Pangasinan, where most pig raisers use decocted guava leaves to treat diseases like diarrhea or scouring.

Financial Return of Native Pig Raising

Philippine native pigs raising in Western Leyte presents a viable economic opportunity for farmers in the region. The gross income per raiser from selling one sow-level native pig in 2 production cycles per year is Php 81,600 (Table 4), while the total cost for feeds and other supplies per year is Php 22,000. Based on the cost and return analysis, a net income of Php 59,600 per year (29,800 per production cycle) will be attained if a raiser could sell eight piglets per production cycle. Aside from this, a raiser can also earn from selling roasted pigs or 'lechon,' which are famous preparations for the meat of native pigs (Ortega *et al.*, 2021). Many people prefer native pigs 'lechon' because of its nutritive value compared to commercial breeds based on its high ash, crude protein, and low -calorie content (Dela Cruz, 2016). According to Abanto *et al.*, (2012), native pigs are more palatable; the taste and quality of their skin, especially their roasted crunchiness, are also favored by locals (Santiago *et al.*, 2016). Thus, an increase in the demand for native pig production. Furthermore, value-adding processes include producing processed pork products, packaging, branding, and marketing, which can enhance returns by commanding higher market prices (Junsay and Dominguez 2022). Distribution and marketing, such as efficient channels and strategies and direct marketing to consumers through online platforms and farmers' market can eliminate intermediaries and increase the producer's share of the final price. Understanding consumer preferences for organic, free-range, or sustainably produced pork can justify premium prices.

Table 3. Housing type of Native and Wild Pigs in Western, Leyte, Philippines

Practices	Native Raisers (n=23)	Percentage	Wild Raisers (n=4)	Percentage
A. Cage/Pen	5	22%	2	50%
1. Roofing materials				
a. GI sheets	3	60%	3	100%
b. Thatch	2	40%		
2. Flooring				
a. Cemented	5	100%	1	33%
b. Soil	0		2	67%
3. Siding/Wall type				
a. Cemented	3	60%	1	33.33%
b. Metal Mesh Screen			1	33.33%
c. Bamboo	2	40%		
d. None			1	33.33%
4. Feeding and Watering Material				
a. Cemented	3	60%		
b. Plastic	1	20%		
c. Tire	1	20%		
B. Tethered	14	61%	1	25%
C. Combination (cage & tethered)	4	17%	1	25%

Table 4. Cost and Return Analysis of Native Pig Production in Western Leyte Philippines

Item	Amount (Php)
Gross income	
Pig Sales ¹	81,600
Total gross income	81,600
Variable Cost	
Feeds ²	21,600
Total variable cost	21,600
Fixed Cost	
Other Supplies ³	400
Total fixed cost	400
Total cost	22,000
Net income	59,600

Assumptions:

¹ Pig sold at 5-month-old at 30 kg; Sold at Php 170/kg; 8 pigs per production cycle (April -May 2021)² Feeds: 1 kg/head/day x Php 15/kg; not applicable for some raisers who rely on available local materials³ Other supplies: Pen cleaning materials and utilities

Conclusions

Native pig raisers in Western Leyte primarily operate on a backyard scale, adhering to traditional production practices. Majority of these raisers are middle-aged married men with diverse educational backgrounds. Native pigs could thrive in low-input systems that align with the principles of sustainable farming, reducing reliance on external inputs such as commercial feeds and veterinary drugs. Moreover, this study recommends that Filipino raisers continue to raise Philippine native pigs due to their unique attributes compared to commercial breeds and their significant source of supplementary income due to the minimal amount of money required for raising them.

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