

Exotic to Ordinary: Inclusion of Frog Meat Delicacies to Public Markets

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Abstract—The current study evaluates the acceptability of frog meat (palakang bukid) within the community of General Santos City, particularly the Public Markets of Lagao, Uhaw and Labangal. Study shows that respondents show an appreciation of the cultural perspective of frog meat (mean=4.22) but do not consume the meat (mean=2.5) suggesting an underutilized food resource. Respondent had varying opinions concerning the taste (mean=2.94) and the meat's benefits (mean=2.86) suggesting an educational gap concerning the meat. The willingness to consume frog meat is rated at (mean=3.0), reflecting a moderate level of acceptance among consumers suggesting that while frog meat is not universally embraced by the majority there is a notable portion of population of General Santos City open on trying to include it into their diets, and a moderate mean suggesting interest to purchase the meat when it was promoted to be of sustainable provenance (mean=2.78). Lagao was the most preferred of the three markets (total mean=3.202) and Uhaw had shown the most potential for growth (total mean=2.88). It was observed that respondents of Lagao had the most positive acceptance. There was a suggestion that frog meat had health benefits. It was suggested that the meat had less cholesterol and more protein than chicken. This positive observation of Market Lagao and positive sentiments concerning the meat suggests that the meat sellers of frog meat should partner with street vendors of BBQ, local vendors of meat retail to create a buzz within the community. It is suggested that there is a great potential for the community to sell and promote frog meat. More for selling meat within the community of General Santos City.

Index Terms—Frog Meat, Palakang Bukid, General Santos City public markets, Descriptive Approach.

1. Introduction

The pressing issue of obesity, particularly linked to the overconsumption of conventional meat and poultry, poses significant health risks globally. According to recent studies, diets high in saturated fats and cholesterol contribute to rising obesity rates, leading to serious health complications such as diabetes and cardiovascular diseases, therefore, the promotion of nutritious and sustainable protein sources, such as meat alternatives, emerges as a crucial strategy for improving overall health outcome. By offering nutrient-dense options, meat alternatives can play a pivotal role in mitigating the adverse effects of traditional meat consumption and enhancing dietary diversity.

The meat derived from frog is the only one that contains essential amino acids, high digestibility, low fat, and

cholesterol, allowing consumers intolerant to or allergic to animal-origin protein to consume it. Despite all the nutritional advantages mentioned above, less attention was given to the sensory characteristics of frog meat products. Frog meat consumption does not offer health benefits only, but also contributes to attaining the United Nations "Sustainable Development Goals" (SDGs). These SDGs are an urgent call for action by all countries - in partnership - to end poverty, protect the environment and climate, and guarantee peace and prosperity for all, now and for the future. Thereafter, the second SDG aims to end hunger and attain sustainable agriculture. Therefore, frog meat consumption could be considered a viable alternative to conventional livestock, which would contribute to enhancing food security among populations experiencing food insecurity. According to a report published by the Food and Agriculture Organization of the United Nations (2020) titled "The State of World Fisheries and Aquaculture – Sustainability in Action," frog consumption was forecasted to reach 131,300 tonnes with a revenue generation of USD 997 million in 2018. Frog meat use is desirable in human consumption for its cholesterol-reducing and anti-obesity effects. It is also a suitable alternative for children who are allergic to other animal proteins or present lactose intolerance (Mello et al., 2006; Oliveira et al., 2013; Rodrigues et al., 2014). The use of frog meat is recommended in diets aimed at fighting cholesterol, obesity, arterial hypertension; and for the treatment of gastrointestinal disorders in diets of athletes, convalescents, growing children, or children allergic to animal protein (MELLO et al., 2006; NÓBREGA et al., 2007). Frog meat has been recommended for the treatment of gastrointestinal diseases, allergies, and in diets with sodium, fat, and calorie restrictions. The amino acid profile of this meat has a chemical score greater than 1.0 and has no essential amino acid limitations (PAIXÃO and BRESSAN, 2009). According to (PAIXÃO and BRESSAN, 2009), Frog meat can also be used by patients with calcium deficiency and osteoporosis, as it contains a high amount of calcium available for absorption by the organism, similarly to the calcium present in milk. As such, it is a food alternative for lactose intolerant patients, given its higher protein content as compared with milk and beef.

In the Philippines, the frog meat locally known as "palakang bukid" has long been consumed in rural areas of the Philippines, particularly in Pampanga, Nueva Ecija, and Bulacan. It is

considered a delicacy for its tender texture and taste, often compared to chicken. Dishes such as adobong palaka, tinolang palaka, and betute tugak highlight its cultural significance. However, despite its popularity, frog meat remains largely absent from mainstream commercial food spaces such as public markets due to cultural norms and social factors that make the public uninterested in consuming frog meat. (Marjorie Ann M. Panghulan et al.). Despite the growing demand for frog meat, particularly in malls like KCC Gensan, it remains largely underrepresented in public markets. This study explores the viability of mainstreaming "palakang bukid" in General Santos City Public Markets, aiming to elevate frog meat to the same level of acceptance and demand as commonly consumed meat like chicken, beef, pork and fish. By assessing consumer attitudes and market potential, the study seeks to identify strategies to overcome cultural barriers and promote frog meat as a sustainable, affordable, and nutritious alternative. The goal is to integrate palakang bukid into public markets, ensuring it becomes a viable option for consumers while supporting local food diversification and economic growth.

2. Objectives of the Study

A. General Objective

The general objective of this research is to evaluate how much of a desire there will be among consumers for frog meat (palakang bukid), and what will be the main influences on the acceptance by consumers as a potential commercial food product in public markets of General Santos City. This study is looking at consumer perception of, preference for, and obstacles to acceptance of frog meat as an ingredient in locally available products, with the aim of determining whether or not it would be possible to offer frog meat in the public markets of General Santos City and to recommend ways to improve consumer acceptance so that frog meat can be adopted by the public market.

B. Specific Objectives

1. To identify the demographics of consumers in General Santos City, with particular reference to their age and where they are located.
2. To evaluate consumer knowledge of, perception of, and willingness to purchase frog meat.
3. To determine what factors affect the willingness of consumers to purchase frog meat, such as cultural views toward consumption of frogs; familiarity with consuming frog meat; and consumer view of frog meat as being nutritious.
4. To propose strategies that may promote frog meat as a sustainable, nutritious, and market-viable food option in public markets.

3. Materials and Methods

A. Research Design

This study utilized a descriptive quantitative research design to investigate consumer perceptions and experiences regarding the integration of "palakang bukid", or frog meat, into public

markets in General Santos City. The descriptive approach was deemed suitable as it aimed to describe and interpret current market practices and consumer behavior. It provided an accurate representation of how the acceptance of frog meat could influence consumer trust, confidence, and purchasing decisions.

B. Research Instrument

The data were collected using a digital survey created and administered via Google Forms. The questionnaire was adapted from previous studies conducted by Efenakpo, D. O., et al. (2025), Bacolod, H. (2025), and Panghulan, M. A. N., et al. (2024), with modifications to reflect the local context of General Santos City. The survey was designed to gather detailed insights to evaluate the respondents' awareness of frog meat as a food source, consumption patterns, willingness to pay, and perceived barriers (e.g., hygiene concerns, limited availability). Respondents were approached in person, provided with a brief introduction to the study's objectives, and directed to access the survey link on their mobile devices.

Table 1

5-point Likert scale	
Scale	Interpretation
5	Strongly Agree
4	Agree
3	Neutral
2	Disagree
1	Strongly Disagree

C. Respondents and Sampling Technique

The study utilized cluster sampling to select 12 respondents from three public markets in General Santos City: Uhaw Market, Lagao Market, and Labangal Market. The sampling method ensured representation from diverse locations frequented by shoppers, aligning with the study's focus on frog meat awareness and demand. The collected data were analyzed using descriptive statistics to summarize and interpret respondent's awareness, consumption patterns, willingness to pay, and perceived barriers related to frog meat.

D. Data Collection Procedure

Upon completion of the validation process, the finalized questionnaire was disseminated online through Google Forms. Rather than disseminating the survey broadly, the researchers strategically selected 12 respondents from various public markets in General Santos City, specifically from Uhaw, Lagao, and Labangal. The survey link was subsequently shared with these chosen individuals through targeted outreach on social media platforms.

E. Data Analysis

The collected data were examined using descriptive statistics, such as mean. The statistical method helped summarize and interpret the perception and behaviors of respondents regarding the integration of frog meat in public markets of General Santos City. The weighted mean was particularly utilized to assess the overall level of agreement with statements regarding trust, awareness, and comfort concerning current market practices related to frog meat. The

findings were presented in tables and discussed in detail in the results and discussion.

Table 2
Weighted mean scale

Range	Interpretation
4.21-5.00	Strongly Agree (Very High)
3.41-4.20	Agree (High)
2.61-3.40	Neutral (Moderate)
1.81-2.60	Disagree (Low)
1.00-1.80	Strongly Disagree (Very Low)

F. Ethical Considerations

The researchers adhered to ethical standards throughout the duration of the study. All participants were adequately informed about the research's purpose, and their involvement was entirely voluntary. While names and addresses were collected for identification purposes, all responses were handled with utmost confidentiality. An informed consent statement was incorporated into the Google Forms to ensure that participants understood their rights and intended use of data. The study complied with guidelines established by Mindanao State University-General Santos City.

4. Results and Discussion

Table 3

Demographic profile of the respondents in terms of age		
Age	Frequency (f)	Percentage (%)
15 - 18	3	8%
19 - 21	22	61%
22 - 24	10	28%
25 and above	1	3%
Total	36	100%

Table 3 shows the demographic profile of the respondents in terms of age. Ages between 19 – 21 has the highest percentage of respondents with a total of 61%. While ages between 22 – 24 is next to with a total percentage of 28%. And ages between 15 – 18 and 25 and above has the least percentage of the respondents with a total percentage of 8% for ages between 15 – 18 and 3% for 25 and above. This suggests that the majority of the respondents are younger adults or late adolescence.

Table 4
Demographic profile of the respondents in terms of location

Age	Frequency (f)	Percentage (%)
Lagao	12	33%
Labangal	12	33%
Uhaw	12	33%
Total	36	100%

Table 4 shows the demographic profile of the respondents in terms of location. All three areas that were under the scope of the study are at the same number percentage of 33%. The total

number of the respondents of the study is 36, And the respondents are evenly distributed to 12 in each of the areas of Lagao, Labangal, and Uhaw.

Table 5 shows the level of consumer desirability of the frog meats in the area of Labangal. The result shows that the statement "I am aware that frog meat is consumed as food in certain cultures or region" has the highest mean average among all of the statements. With a mean average of 4.25, described as "Strongly agree". This concludes that most of the respondents from Labangal are aware of the frog meat that is consumed in certain cultures.

In terms of taste preferences, according to the statement "I am aware that frog meat tastes similar to chicken, with a mild, slightly sweet flavor and a tender, lean texture." It has a mean average of 2.91, described as neutral, this suggests that the respondents are neutral when it comes to taste preferences.

Respondents from Labangal are also neutral from the statements "I am aware the frog meat is lower in cholesterol and higher in protein compared to chicken." with a mean average of 3, And "I believe frog meat is low in fat and cholesterol, making it a healthy food option", with a mean average of 2.67.

The respondents are neutral in purchasing frog meat and willing to try frog meat according to the statements "I would be willing to try frog meat if it were readily available in my area" with a mean average of 3.08, and "I would consider purchasing frog meat if it were marketed as a sustainable or exotic food option" with a mean average of 2.83.

Table 6 shows the overall mean average of the level of consumer desirability of the frog meats in the area of Labangal which is 3.024, described as Neutral. This suggests that the consumers of Barangay Labangal are neutral in their desire to consume frog meats.

Table 6
Overall mean of the level of consumer desirability of the frog meats in the area of Labangal

Mean	Description
Overall Mean	3.024

Table 7 shows the level of consumer desirability of the frog meats in the area of Lagao. The result shows that the statement "I am aware that frog meat is consumed as food in certain cultures or regions" has the highest mean average among all of the statements. With a mean average of 4.25, described as "Strongly agree". This shows that most of the respondents from Lagao are aware of the frog meat that is consumed in certain cultures.

In terms of taste preferences, according to the statement "I am aware that frog meat tastes similar to chicken, with a mild, slightly sweet flavor and a tender, lean texture." It has a mean

Table 5
Level of consumer desirability of the frog meats in the area of Labangal

Statements	Mean	Description
1. I am aware that frog meat is consumed as food in certain cultures or region	4.25	Strongly Agree
2. I have consumed frog meat at least once in my life	2.41	Neutral
3. I am aware that frog meat tastes similar to chicken, with a mild, slightly sweet flavor and a tender, lean texture.	2.92	Neutral
4. I am aware the frog meat is lower in cholesterol and higher in protein compared to chicken.	3	Neutral
5. I believe frog meat is low in fat and cholesterol, making it a healthy food option	2.67	Neutral
6. I would be willing to try frog meat if it were readily available in my area	3.08	Neutral
7. I would consider purchasing frog meat if it were marketed as a sustainable or exotic food option	2.83	Neutral

Table 7
Level of consumer desirability of the frog meats in the area of Lagao

Statements	Mean	Description
1. I am aware that frog meat is consumed as food in certain cultures or region	4.25	Strongly Agree
2. I have consumed frog meat at least once in my life	2.42	Neutral
3. I am aware the frog meat tastes similar to chicken, with a mild, slightly sweet flavor and a tender, lean texture.	3.08	Neutral
4. I am aware the frog meat is lower in cholesterol and higher in protein compared to chicken.	3	Neutral
5. I believe frog meat is low in fat and cholesterol, making it a healthy food option	3.25	Neutral
6. I would be willing to try frog meat if it were readily available in my area	3.08	Neutral
7. I would consider purchasing frog meat if it were marketed as a sustainable or exotic food option	3.33	Neutral

Table 9
Level of consumer desirability of the frog meats in the area of Uhaw

Statements	Mean	Description
1. I am aware that frog meat is consumed as food in certain cultures or region	4.17	Agree
2. I have consumed frog meat at least once in my life	2.67	Neutral
3. I am aware that the frog meat tastes similar to chicken, with a mild, slightly sweet flavor and a tender, lean texture.	2.83	Neutral
4. I am aware the frog meat is lower in cholesterol and higher in protein compared to chicken.	2.83	Neutral
5. I believe frog meat is low in fat and cholesterol, making it a healthy food option	2.67	Neutral
6. I would be willing to try frog meat if it were readily available in my area	2.83	Neutral
7. I would consider purchasing frog meat if it were marketed as a sustainable or exotic food option	2.17	Disagree

average of 3.08, described as neutral, this suggests that the respondents are also neutral when it comes to taste preferences.

From the statements of “I am aware the frog meat is lower in cholesterol and higher in protein compared to chicken.” with a mean average of 3, And “I believe frog meat is low in fat and cholesterol, making it a healthy food option”, with a mean average of 3.25 of the respondents of Lagao.

The respondents are neutral in willingness to consume and to purchase frog meats according to the statements “I would be willing to try frog meat if it were readily available in my area” with a mean average of 3.08, and “I would consider purchasing frog meat if it were marketed as a sustainable or exotic food option” with a mean average of 3.33.

Table 8
Overall mean of the level of consumer desirability of the frog meats in the area of Lagao

Mean	Description
Overall Mean	3.202

Table 8 shows the overall mean average of the level of consumer desirability of the frog meats in the area of Lagao which is 3.202, described as Neutral. This suggests that the consumers of Barangay Lagao are neutral in their desire to consume frog meats.

Table 9 shows the level of consumer desirability of the frog meats in the Barangay Uhaw. The results from the table shows that the statement “I am aware that frog meat is consumed as food in certain cultures or regions” has the highest mean average among all of the statements. With a mean average of 4.17, described as “Strongly agree”. This shows that most of the respondents from Uhaw are aware of the frog meat that is consumed in certain cultures. In the statement “I have consumed frog meat at least once in my life”, it has a mean average of 2.67, described as neutral.

When it comes to the taste preferences of frog meat, according to the statement “I am aware the frog meat tastes similar to chicken, with a mild, slightly sweet flavor and a tender, lean texture.” It has a mean average of 2.83, described as neutral, this suggests that the respondents are also neutral when it comes to taste preferences.

From the statements of “I am aware the frog meat is lower in cholesterol and higher in protein compared to chicken.” with a mean average of 2.83, And “I believe frog meat is low in fat and cholesterol, making it a healthy food option”, with a mean average of 3.25 of the respondents of Uhaw.

The respondents are neutral in willingness to consume and to purchase frog meats according to the statements “I would be willing to try frog meat if it were readily available in my area” with a mean average of 2.67, and “I would consider purchasing frog meat if it were marketed as a sustainable or exotic food option” with a mean average of 2.17.

Table 10
Overall mean of the level of consumer desirability of the frog meats in the area of Uhaw

Mean	Description
Overall Mean	2.881

Table 10 shows the overall mean average of the level of consumer desirability of the frog meats in the area of Uhaw which is 2.881, described as Neutral. This suggests that the consumers of Barangay Uhaw are neutral in their desire to consume frog meats.

In summary the demographic profile of consumers in General Santos City, particularly in terms of age and location. The highest mean average of the respondents in terms of age is the age group between 19 – 21 known as late adolescence or young adults. In terms of location, the highest mean average in the level of the consumers desirability is the Lagao area, with an overall mean average of 3.202. Among all of the three chosen areas in General Santos City, Lagao has the market of consumers and has a strong desire to consume frog meat.

In examining the consumer awareness, perception, and the willingness of the consumers to consume frog meat, the overall level of desirability of the consumers is neutral. In terms of perceived nutritional value, familiarity, and cultural attitudes of the consumers towards frog meat is neutral to the consumers. Hence, there is still a probable chance that the frog meats in demand in General Santos City.

5. Conclusion and Recommendation

This study examined the level of consumer desirability for frog meat (palakang bukid) in General Santos City, particularly among respondents from the barangays of Lagao, Uhaw, and Labangal. The results indicate that Frog meat is viewed as an interesting potential market regarding participant experience with the product. Although participants indicate they are aware of the cultural significance of frog meat (mean = 4.22), they consume it very little (mean = 2.5), suggesting there may be an opportunity for the participants to explore frog meat as a food source. In addition, participants have mixed opinions concerning the taste (mean = 2.94) and health benefits (mean = 2.86) of frog meat, providing a potential area for education that could increase the understanding and appreciation of this product. Interestingly, participants express a neutral willingness to try frog meat if it is made available (mean = 3.0) and a moderate interest in purchasing frog meat if it is promoted as sustainable (mean = 2.78). Overall, the survey responses from the 36 regular shoppers in the Public Markets of LABANGAL, UHAW, and LAGAO in General Santos City provide insight into how participants view frog meat. LAGAO had the most favorable perception of the three markets, which provided the largest overall mean (total mean = 3.202), UHAW demonstrated the greatest potential for growth with an overall mean (total mean = 2.88), and both Q1 and Q7 were rated the highest for all participants; this indicates a very positive awareness of these questions. Conversely, Q2 and Q7 had lower ratings than Q1 and Q7 for all participant groups, which indicates there are opportunities for improvement and additional research and development.

Moreover, the data reflects that the interest in frog meat is growing, as is the acceptance of frog meat. The respondents described frog meat positively and was considered a healthy meat option as it is lower in cholesterol and has a higher protein content than chicken. The respondents expressed a willingness to purchase and try frog meat especially if marketed as a sustainable meat option. Since respondents from LAGAO expressed the greatest comfort level with the consumption of frog meat, it is advised that sellers of frog meat form partnerships with nearby street BBQ vendors and local meat retail shops. This will utilize the consumer's positive image towards frog meat by boosting sales and making frog meat more popular in the community.

To transform low consumer desirability into meaningful market potential, coordinated efforts among producers, vendors, local institutions, and future researchers will be essential.

6. Recommendations

For the emerging frog meat industry in General Santos City, progress will depend on moving beyond simply presenting frog meat as an unusual protein option, a tactic that, although informative, does little to address long-standing cultural hesitation and unfamiliarity. Producers and vendors are encouraged to reintroduce frog meat through value-enhanced strategies, such as offering ready-to-cook or seasoned cuts,

integrating frog meat into popular Filipino dishes, or providing sample-sized portions that minimize the hesitation of first-time buyers. Promoting frog meat as a nutritious and sustainable choice through cooking demonstrations, market events, and partnerships with culinary students or local dining establishments may gradually reshape public perception and make the product more acceptable. Likewise, building long-term partnerships with public markets, local farms, health advocates, and institutional clients such as school cafeterias, hotels, or wellness-oriented food outlets can create a steadier demand that is less dependent on novelty or occasional interest.

For consumers, the study encourages a shift in perspective toward viewing frog meat not as an unfamiliar ingredient but as a viable, nutrient-rich, and environmentally responsible food option. Trying frog-based dishes, making small yet supportive purchases from local producers, or considering frog meat as an alternative during times of rising meat prices can strengthen local food supply chains. Choosing properly sourced and hygienically handled frog meat, along with giving feedback to sellers, can further help producers enhance product quality, safety, and taste ultimately making healthier and more sustainable protein choices more widely accessible.

For future researchers, numerous avenues remain open for deeper exploration. Longitudinal studies tracking changes in consumer desirability as promotional interventions are introduced would offer concrete evidence of the effectiveness of awareness campaigns. Comparative research across regions with differing cultural attitudes toward frog meat could uncover contextual factors that shape acceptance. Additionally, experimental studies testing the market viability of value-added frog products such as processed snacks, ready-to-eat dishes, or nutritionally fortified frog-based foods would provide practical and scalable models for integrating palakang bukid into mainstream Philippine markets.

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Appendix

Survey Questionnaire

Case Study: "Inclusion of Frog Meat Delicacies to Public Markets"

Introduction:

This study aims to create awareness of the frog meat to the public and aims to negate the common norms that affect the demands of the frog meat in General Santos City. This will be an opportunity for frog meat to become an alternative to other common meats that are found in public markets, such as chicken, cow, fish, etc., to aid livestock consumption, and to

help other businesses in the food industry to improve the frog meat delicacies and penetrate to the market. This study will serve as a reference to future researchers in academic research,

entrepreneurs, and consumers about frog meat in the livestock industry.

A. Demographic Profile Name:

Age:
Address:
Email:

B. Level of Consumer Desirability of Frog Meat

Statements	1-Strongly Disagree	2-Disagree	3-Neutral	4-Agree	5-Strongly Agree
1. I like frog meat.					
2. I have consumed frog meat multiple times.					
3. I eat frog meat for nutritional reasons.					
4. I prefer frog meat because of its flavor.					
5. I consume various parts of the frog (e.g., legs, trunk, whole)					
6. I have a preference for specific frog species.					
7. I prefer frog meat in specific forms (e.g., dried, fresh, roasted).					
8. I am willing to buy frog meat for consumption.					
9. I acquire frogs for my own consumption.					
10. I want to engage in frog farming for financial reasons.					
11. I acquire frogs frequently.					
12. I consume frog meat regularly.					
13. I am ready to engage in frog farming.					
14. I'm willing to sell frog meat in public markets.					