



RESEARCH PAPER

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## Survey on the traditional practices of Ilocano, Ybanag, Kalinga and Agta (IBAKA) farmers in raising native chicken (*Gallus gallus domesticus* L.)

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### Abstract

The study aimed to explore the traditional practices employed by the Ilocano, Ybanag, Kalinga, and Agta (IBAKA) native chicken raisers. It used the descriptive-survey design to describe the 80 respondents' profile, native chicken production, native chicken management, suggested training services, and problems encountered. Results show that there was a gender-balanced distribution of respondents in raising native chickens. The family structures of the respondents indicated a medium household size, with nuclear and extended families being prominent. The respondents were non-members of any organization. They possessed substantial land areas for crop cultivation as both their source of food and feed for native chickens. In addition to native chicken production, respondents engaged in other livestock and poultry raising activities, emphasizing the diversified nature of their agricultural practices. The native chicken raisers rear Improved Philippine Native Chickens and their production practices indicate a reliance on neighborhood sources for acquiring chickens. The respondents adopt a free-range system, allowing chickens to forage for their food, while the housing system is characterized by simple and open-air shelters. Corns and grains were the staple dietary choices, reflecting a cost-effective and locally available approach. Vaccination practices were limited, with the majority of respondents relying on traditional and indigenous disease control methods. The research findings suggest several implications, primarily centered around the integration of technology into local chicken farming practices and the need for programs aimed at skill enhancement among native chicken raisers.

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## Introduction

The Philippines, a Southeast Asian archipelago, is one of the countries where native chickens still thrive (Yan, 2020). Generations of interbreeding native chickens with foreign varieties have yielded numerous prominent breeds, and more are currently undergoing genetic refinement. Despite the fact that more than half of the country's poultry are from imported lineages chosen for their exceptional growth and egg production qualities, indigenous chickens still make up a substantial portion, constituting 43.3 percent of the country's total chicken population (Philippine Statistics Authority, 2023).

Many Filipino farms and backyards typically have makeshift chicken coops, a bustling group of chickens eagerly foraging for worms, or roosters bred for cockfighting patiently awaiting their next sparring match.

Still, the rising popularity of healthy, organic and free-range chicken meat and eggs in the Philippines means that native chickens are here to stay. The native chicken meat provides a unique taste, flavor, and texture that entices consumers and food lovers. Regarded as high-quality goods, native chicken meat commands relatively greater prices than standard commercial broilers, and some even fetch premium rates. The Department of Agriculture is actively advocating for native and free-range poultry cultivation by providing hands-on demonstrations, workshops, and modest financial assistance to farmers. Moreover, many Filipinos are deeply involved in breeding fighting roosters, each of which can be sold for several thousand pesos, with the price contingent on their lineage and fighting prowess.

Given its extensive historical significance, preserving our native chicken breeds is crucial, particularly as they face the risk of genetic dilution due to intentional or inadvertent interbreeding with foreign varieties. The preservation effort entails safeguarding the genetic diversity of these various groups by enhancing specific lineages and cultivating birds that align with the preferences of the expanding specialized market for native chickens (Cabarles, 2020).

For this initiative to succeed, there should a strong economic driver. Breeders need to establish consistent characteristics for each breed. Once each lineage is firmly defined, poultry producers can then manufacture top-tier native chickens and eggs that exhibit consistent size, color, quality, and regularity (Yan, 2020). In addition, there should be good production and management practices in raising native chicken.

Poultry industry is one of the major contributors to Philippine agriculture, and native chicken had improved by 6.2 percent (Philippine Statistics Authority, 2023). However, the industry has been given comparatively little attention from the government (Briones and Espineli, 2022). To sustain the demand with high quality products, entrepreneurs are pushed to find innovations and technologies that addresses the challenges in native chicken industry (Department of Science and Technology, 2022).

Numerous studies are already conducted to investigate the native chicken production and management practices in Palawan (Lopez *et al.*, 2013; Lopez *et al.*, 2014), Western Visayas (Cabarles, 2013; Cabarles, 2013), Samar (Godinez *et al.*, 2019), and Bohol (Salces *et al.*, 2015). However, limited studies focus on the northern part of the country.

Hence, this study aims to determine the traditional practices employed by the Ilocano, Ibanag, Kalinga, and Agta (IBAKA) farmers in raising native chickens.

### *Statement of the problem*

The study explored the traditional practices used by the Ilocano, Ibanag, Kalinga, and Agta (IBAKA) farmers in raising native chickens. Specifically, it answered the following:

1. What is the profile of the respondents?
2. What are the native chicken production practices of the respondents?
3. What are the management practices of the respondents in raising native chicken?

4. What are the suggested training and problems encountered by the respondents in raising native chicken?

## Materials and methods

### *Research design*

The study used the descriptive – survey design. Calmorin and Calmorin (2007) cited that descriptive method seeks the facts about a current situation. Furthermore, this method works primarily on the description, comparison, analysis, and interpretation of existing data. This design will be used since the study aims to describe the personal information of the respondents together with their socio-economic profile, chicken production, and management practices. Meanwhile, the survey method was employed as it utilized questionnaire as the main data-gathering tool in eliciting responses from the respondents.

### *Locale of the study*

The study was conducted in the Northeastern portion of Cagayan particularly in the municipalities of Lal-lo and Gattaran. Cagayan is known be one of the producers of native chicken in the country (Perez and Eustaquio, 1997). Native chicken is an important livestock resource in the province. It provides livelihood in terms of additional income and food security.

### *Respondents and sampling procedure*

The study was conducted among Ilocano, Ibanag, Kalinga, and Agta (IBAKA) farmers who venture on native chicken production in the North eastern portion of Cagayan. To identify the respondents and their whereabouts, the roster was requested from the Municipal Agricultural Office. However, with the lack of registered native chicken raisers, purposive sampling and incidental sampling were employed.

### *Research instrument*

A structured questionnaire prepared by the researchers was utilized as the primary data-gathering instrument. The said questionnaire consisted of five parts. Part I covers the respondents'

personal information and socio-economic profile. Part II queries about chicken production which includes breeds and their sources, management systems, labor, and disease and control. Lastly, part III deals with their suggested training services and problems encountered.

### *Collection of data*

Prior to the distribution of questionnaires, permission was acquired from the office of the Campus Executive Officer, ensuring a structured approach to the study. Subsequently, formal correspondence was forwarded to the local chieftains to seek their consent for conducting the research within their respective communities. Next, the questionnaires were personally distributed to the intended respondents. During the interactions, they were emphatically encouraged to provide honest responses and were assured that the information they shared would be treated with utmost confidentiality. The retrieval of the questionnaires was done immediately after the respondents answered them, ensuring a well-organized and systematic data gathering procedure.

### *Analysis of data*

The data gathered were tallied, tabulated and analyzed using descriptive statistics. Frequency counts, percentage, standard deviation, and mean were used to describe the respondents' profile variables, native chicken production practices, and management practices.

## Results and discussion

### *Profile of the native chicken raisers*

The demographic distribution of native chicken raisers can be gleaned in Table 1. Among the respondents, there were 42 or 52.5 percent Ilocano, 17 or 21.2 percent Ybanag, 14 or 17.5 percent Agta, and seven or 8.8 percent Kalinga. This distribution shows a predominant presence of Ilocano chicken raisers, indicating the prominence of Ilocano community in the practice of native chicken husbandry within the locality. The average age of the native chicken raisers in the study was determined to be 48.44 years old with a corresponding standard deviation of 12.97.

**Table 1.** Distribution of the respondents in terms of profile

Variable	f (n=80)	%/R
Ethnicity		%
Ilocano	42	52.5
Ybanag	17	21.2
Agta	14	17.5
Kalinga	7	8.8
Age		
Below 30	6	7.5
30 to 39	15	18.8
40 to 49	14	17.5
50 to 59	30	37.5
60 & above	15	18.8
Mean=48.44	SD=12.97	
Sex		
Female	37	46.2
Male	43	53.8
Type of Family		
Nuclear	45	56.2
Extended	35	43.8
Household Size		
Medium (5 to 6 persons)	78	97.5
Small (3 to 4 persons)	2	2.5
Membership in Organization		
With Membership (PCIC, RIC, POIC)	10	12.5
Without Membership	70	87.5
Home Ownership		
Owned	77	96.2
Rented	3	3.8
Area of Land (in hectare)		
1 hectare	33	41.2
More than 1 hectare	47	58.8
Mean=1.76	SD=1.03	
Crops		R
Corn	79	1.5
Vegetables	79	1.5
Rice	74	3
Animal Production (Aside from Native Chicken)		
Carabao	37	1
Cow	15	2
Swine	10	3.5
Duck	10	3.5
Goat	4	5

f= Frequency, %= Percentage, R=Rank

These statistics reveal that the respondents had a considerable age range, indicating a diverse group of individuals who engaged in this agricultural practice.

The respondents exhibited a gender-balanced distribution with 37 or 46.2 females and 43 or 53.8 males. This reflects a remarkable level of gender equality in raising native chicken. The nearly equal representation of both sexes suggests that men and women are actively engaged in native chicken raising, emphasizing a shared participation in this agricultural endeavor.

The surveyed respondents' family structures presented that 45 or 56.2 percent belong to nuclear families while 35 or 43.8 percent belong extended families. Their family size ranged from three or four persons/ small (2 or 2.5 percent) to five to six persons/ medium (78 or 97.5 percent).

Specifically, there were 70 or 87.5 percent who reported non-membership in any organization and only 10 or 12.5 percent were members of the Philippine Crop Insurance Corporation (PCIC) and Rural Improvement Club (RIC). This entails the limited organizational affiliations of the respondents especially those that are related to raising native chicken. Consequently, this devoid them of the potential benefits and supports that the organizations can offer. This could indicate the missed opportunities for knowledge exchange, access to resources, and assistance that could contribute to the improvement of native chicken raising practices.

As observed, majority (77 or 96.2 percent) of the respondents were identified to be the homeowners of their residence while a small proportion (3 or 3.8 percent) were reported renting their dwelling places. Interestingly, a few individuals were able to manage and were allowed to raise chicken while staying with their relatives.

As per land area, the respondents possessed substantial land areas for both crop cultivation and native chicken raising. Thirty-three or 41.2 percent claimed owning a hectare land while 47 or 58.8 percent held more than a hectare of land. The calculated average land area of the respondents was 1.76 hectares with a standard deviation of 1.03. This highlights a relatively equitable distribution of land areas among native chicken raisers which is essential for agricultural and poultry farming activities.

Moreover, the table reveals the primary crops the respondents cultivated. The most commonly grown crops were corn (79 or ranked 1.5), vegetables (79 or ranked 1.5), and rice (74 or ranked 3). These crops served as sources of their food and as feed for their native chickens.

**Table 2.** Distribution of the respondents in terms of native chicken production practices

Variable	f (n=80)	%
<b>Breed of Native Chicken</b>		
Improved Philippine Native Chicken	80	100.0
<b>Number of Native Chicken Raised</b>		
Less than 5	47	58.8
5 to 9	9	11.2
10 to 14	15	18.8
15 & above	9	11.2
Mean=6.83	SD=10.43	
<b>Training on Native Chicken Production</b>		
No Training	80	100.0
<b>Number of Chicken Sustained (per year)</b>		
0 to 1	26	32.5
2 to 3	8	10.0
4 to 5	17	21.2
6 to 7	2	2.5
8 & above	27	33.8
Mean=6.21	SD=9.90	
<b>Age of Native Chicken (in week)</b>		
1	39	48.8
2	12	15.0
4	16	20.0
5	9	11.2
6	4	5.0
Mean=2.45	SD=1.71	

f= Frequency, %= Percentage

Finally, the respondents engaged in various livestock and poultry raising activities in addition to raising native chicken. Among them, carabao emerged as the most prevalent (37 or ranked 1), followed by cow (15 or ranked 2), swine (10 or ranked 3.5), duck (10 or ranked 3.5), and goat (4 or ranked 5). This demonstrates the various nature of livestock and poultry raising activities of the respondents that extend beyond native chicken raising.

*Native chicken production*

Table 2 serves as a summary of the respondents' native chicken production practices. It provides information about the various aspects and methods employed.

*Breed of native chicken*

All the native chicken raisers reared Improved Philippine Native Chickens resulted from the combination of several breeds of native chicken. This can be attributed to the free-range system that the raisers adopted. The chickens freely roamed around the neighborhoods facilitating crossbreeding among the flocks.

*Number of native chickens raised*

The majority of the respondents (47 or 58.8 percent) raised less than 5, 15 or 18.8 percent raised 10 to 14, 9 or 11.2 percent raised 5 to 9, and 9 or 11.2 percent raised 15 and above. The average number of chickens they raised was 6.83 with a standard deviation of 10.43. This reveals a variability in flock sizes among the native chicken raisers which suggests that they engaged in small-scale poultry production. Respondents who were capable of maintaining a substantial number of native chickens were primarily those who had the means to provide adequate feedstuffs and other essential poultry materials.

*Training on native chicken production*

The data reveals that all the respondents had no formal training or education on native chicken production. Hence, the native chicken raisers lack essential knowledge and skills necessary for effective chicken production.

*Average number of native chicken sustained*

In an annual basis, the native chicken raisers were able to sustain an average of 6.21 chickens with a corresponding standard deviation of 9.90. Twenty-seven or 33.8 percent kept 8 and above, 26 or 32.5 percent kept at most one, 17 or 21.2 percent kept 4 to 5, 8 or 10.0 percent kept 2 to 3, and 2 or 2.5 percent kept 6 to 7 native chickens. The variability in the number of native chickens sustained were based on the respondents' preferences and purposes. Some respondents maintained a larger flock to support production while some kept chickens primarily for household consumption. This indicates that native chicken farming serves as their source of food and as another source of income.

*Age of chickens*

On the average, the age of their native chickens was 2.45 weeks with a standard deviation of 1.71 weeks, signifying a slight variability in the ages of chickens. A significant portion, 39 or 48.8 percent maintained one-week-old chickens while 41 or 51.2 percent kept chickens ranging from 2 to 6 weeks old. This suggests that raisers may prioritize different aspects of native

chicken production. Young chickens were retained for egg-laying purposes while old ones served as source of meat for their households.

*Native chicken management*

Table 3 provides the management practices employed by the respondents in rearing their native chickens. Findings revealed that the majority, comprising of 64 or 80 percent claimed that their native chickens originated from their neighborhoods while a smaller proportion (16 or 20 percent) ventured in other barangays to acquire native chickens for their flocks. This indicates a significant level of reliance on neighborhoods as suppliers of native chickens among raisers. In can be noted the limited availability of farm suppliers or vendors specializing in native chicken materials or resources within the vicinity.

**Table 3.** Distribution of the respondents in terms of native chicken management practices

Variable	f (n=80)	%
Source		
From neighborhood	64	80.0
From other barangays	16	20.0
Methods of Raising		
Free Range	80	100.0
Housing System		
Traditional (Free Range System)	80	100.0
Heating System		
No heating system	80	100.0
Type of Feeds		
Grain and Corn	80	100.0
Labor		
Family member	80	100.0
Disease and Control		
Vaccination (Vetracin)	3	3.8
No Vaccination	77	96.2

f= Frequency, %= Percentage

It can also be gleaned that all the native chicken raisers adopted a free-range system in managing their poultry. This method involves allowing the chickens to roam freely and seek their own food within the confines of the raisers' backyards and the surrounding neighborhoods. This decision to raise native chickens using a free-range system reflects a traditional and cost-effective approach. It capitalized on the chickens' natural foraging behavior that enabled them to access various food sources such as insects and plants. Consequently, this minimized the raisers' expense for feedstuffs.

For the poultry housing of their native chickens, the respondents mainly utilized a traditional or free-range system that involved the use of simple, open-air shelters with temporary roofing supported by wooden poles. In addition, some respondents allowed their chickens to perch on trees or share spaces in the pig pens. This traditional method typically lacks heating systems that can potentially expose the reared birds to inclement weather conditions. Moreover, this can affect the comfort and productivity of the native chickens particularly during their laying of eggs.

The native chicken raisers typically provided their birds with a diet primarily consisting of corns and grains that were sourced from the crops they harvested. Corns and grains were the common dietary choices for native chickens and served as staple feed materials. This reflects a cost-effective and locally available approach in feeding the birds.

In terms of labor, the native chicken raisers relied on the assistance of their family members in caring and managing their chickens. Particularly, their children helped in feeding the chickens and secured them during adverse weather conditions like typhoons. The involvement of family members in managing native chickens fostered a sense of shared responsibility and contributed to the efficient management of the poultry.

With regards disease control, the majority (77 or 96.2 percent) did not engage in the vaccination of their native chickens. There was only a small fraction (3 or 3.8 percent) who reported that they vaccinated their poultry. Those who vaccinated relied on Vetracin as their veterinary drug of choice for disease prevention and control. It is noteworthy that the majority of raisers who refrained from vaccination adopted an alternative and more traditional approaches such as indigenous materials available in the community.

*Suggested training services*

*Seminar and training on native chicken production*

The native chicken raisers mentioned the need to enhance their knowledge and skills in production and

management of their poultry. This highlights the potential for beneficial interventions in the field of native chicken production and management. Providing training programs that cover various aspects of native chicken management, including feeding, housing, disease control, and breeding, can empower raisers with the expertise needed to improve their poultry operations.

#### *Provision of appropriate breeds to rear*

Given the occurrence of diseases and inclement weather conditions in the locality, there was a recommendation for the provision of good breeds of native chickens. Raisers acknowledged the value of acquiring superior breeds to enhance the productivity of their flocks. Good breeds typically exhibit desirable traits such as faster growth rates, increased egg-laying capacity, and resistance to diseases. Therefore, the suggestion implies that there is an opportunity to introduce better breeding practices and provide raisers with access to genetically improved native chicken stock.

#### *Problems encountered*

The issues raised by the native chicken raisers present significant challenges in native chicken production and highlight several areas where interventions and support are needed.

#### *Inadequate capital*

The problem of inadequate capital for resources and materials indicates a financial constraint faced by the raisers. In their poultry, the respondents' capital was important for acquiring resources and materials. The limited financial capacity of the raisers inhibited their ability to invest in crucial components such as purchasing good breeds of chicken and hindering them to provide adequate care and support for their native chickens. As a result, this became a significant barrier in achieving optimal productivity and sustainability in native chicken production.

#### *Limited poultry supplies*

The limited poultry supplies within the local community became the challenge for raisers as they

can hardly access essential resources and materials for native chicken production. The scarcity of poultry supplies in the community disabled the respondents to obtain poultry feeds, healthcare products, and shelter materials.

#### *Mortality rates caused by diseases*

The occurrence of diseases unfamiliar to the native chicken raisers presented a critical concern. This resulted in increased mortality rates and had a devastating effect on poultry population.

### **Conclusion**

The study aims to explore the traditional practices employed by the Ilocano, Ybanag, Kalinga, and Agta (IBAKA) native chicken raisers. It used the descriptive-survey design to describe the respondents' profile, native chicken production practices, native chicken management practices, suggested training services and problems encountered.

Based on the findings, it can be concluded that the respondents exhibited a diverse demographic profile, with different ethnicities represented, suggesting a rich cultural mix in raising native chickens. The gender-balanced distribution of respondents highlights a notable level of gender equality in raising native chickens. The family structures of the respondents indicated varying household sizes, with nuclear and extended families being prominent.

Regarding organizational affiliations, a majority of respondents were not members of any organization, which may indicate a missed opportunity for knowledge exchange and support. The respondents were predominantly homeowners and possessed substantial land areas for crop cultivation and poultry farming.

The primary crops cultivated by the respondents included corn, vegetables, and rice, which served as both their source of food and feed for native chickens. In addition to native chicken production, respondents engaged in other livestock and poultry raising activities, emphasizing the diversified nature of their agricultural practices.

The production practices for native chickens indicated a reliance on neighborhood sources for acquiring chickens. The respondents predominantly adopted a free-range system, allowing chickens to forage for their food, which reduced feed expenses. The housing system for native chickens was characterized by simple, open-air shelters, although this may expose the birds to weather conditions.

In terms of feeding, corns and grains were the staple dietary choices, reflecting a cost-effective and locally available approach. Family members actively participated in raising native chickens, contributing to efficient poultry management. Vaccination practices were limited, with the majority of respondents relying on traditional and indigenous disease control methods.

The raisers identified two key recommendations: the need for training on native chicken production and the provision of good breeds of native chickens. These suggestions highlight opportunities for interventions to enhance raisers' knowledge and skills in native chicken management and to improve the genetic quality of native chicken stocks.

Further, the study also uncovered significant challenges faced by native chicken raisers, including inadequate capital for resources and materials, limited accessibility to poultry supplies in the locality, and the occurrence of unidentified diseases causing increased mortality among chickens. These issues underscore the need for targeted support and interventions to overcome these barriers and enhance native chicken production in the region.

### Recommendations

Based on the conclusion of the study, the following are recommended:

1. To address the lack of capital and resources, financial support mechanisms, such as microloans or grants specifically designed for poultry farming, can be introduced. These financial resources can assist raisers in acquiring essential materials, feed, and infrastructure for their poultry operations.
2. The limited availability of poultry supplies in the locality reveals an issue with the accessibility of necessary resources. Local agricultural agencies or cooperatives can facilitate the distribution of these supplies to ensure that raisers have easy access to the items they require.
3. Proper disease identification and management are crucial for poultry health. Local veterinary services and training programs can educate raisers about disease prevention and control. Additionally, establishing a network for disease surveillance and reporting can help in the early detection and containment of outbreaks.
4. An extension program could be conducted to enhance the knowledge and skills of native chicken raisers on production and management practices.
5. Future researchers may investigate the best practices and technology employed by large-scale native chicken farmers.

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