

ASSESSMENT OF NATIVE PIG PRODUCTION IN WESTERN PANGASINAN, PHILIPPINES

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Abstract – Pig industry in the Philippines is continuously increasing because of the market potential as additional income for ordinary farmers. Backyard raising operation of pig is predominantly in most of the areas particularly in the rural like the western part of Pangasinan, Philippines. The primary objective of this paper is to assess and document the production and management practice, quantify all costs and margins associated with native pig production of backyard native pig raisers in two selected barangays of Infanta, Pangasinan. The study made use of descriptive survey method. The primary data were obtained through the use of some part of the questionnaires. A total of 30 respondents comprising of 100 percent native pig raisers in the two barangays were selected. The result shows that the majority of native pig raisers in both barangays are full-time housewives, most of their native pig was tethered/tied under the tree. The common feeding management practiced by the respondents in two Barangays is wet feeding, rice bran combined with water. For additional feedstuff they provide kangkong and ipil-ipil twice a day. The average litter per sow in Barangay Pita is 8 and 7 in Barangay Babuyan. The marketing system in two Barangays is wholesale. The average price for the fatterer 7-8 months weanling to market is 2,500-3,500. The buyers of their native pigs are mostly come from Pangasinan and Zambales.

Keywords –

INTRODUCTION

Swine production is one of the most important industries in Philippine agriculture and is the largest revenue earner after rice. In 2016 the total swine population raised at 12.50 million heads corresponding to 1.38% higher than in 2015 with 12.33 million heads (Report, 2016). The demand for market of this animal commodity is continuously increasing. This is due to the preference of more than 50% Filipinos consumed pork in their diets (Cayat, 2007).

There are two types of swine production systems in the Philippines, the backyard and commercial. Backyard swine raiser continues to be an important form of livestock production in many low-income countries. Over 80 percent of all pigs are kept in small-scale herds as noted by Posas et al. (1995) cited by Descallar (2008) and (Razelle et al. (2016). Typically, the backyard raiser is comprised of a small number of native or exotic cross pigs that are kept loose, tethered or confined in pens constructed with local

material. They are managed using household labor and fed a range of readily available feedstuffs (Alcober and Dagoy, 2000 as cited by Razelle et al. (2016) including kamote tops and tubers, kangkong, banana trunks and leaves, copra, rice bran, cooked cassava and madre de agua and the like. Also, native pigs are known for their ability to grow and reproduce even under adverse conditions and more resistant to parasites and common diseases as compared to the standard or imported breeds.

The increasing demand for native pig is being noted as increasing number of people realizing the market potential as additional income for ordinary farmers. However, at present, there was no updated on the status or inventory relative to native pig production is concerned particularly in the Western Pangasinan. This research aimed to document and assess the production and management practices of native pig raisers in and to establish baseline information on the productivity of native pigs in Western Pangasinan.

MATERIALS AND METHODS

There were two selected Barangays of Infanta, Pangasinan that were included in the study; namely Pita and Babuyan. Bgy. Pita has a total land area of 8,797.57 ha consisting of alienable/disposable (7,902.73 ha) and forest area (288.84 ha). It is 27 km from the town proper of Infanta with mountainous terrain. On the other hand, Brgy. Babuyan has a total land area of 5,110.89 ha consisting of 5,043.82 ha alienable/disposal and 67.07 ha of forested area.

Study population and samples

A total of 30 native pig raisers as respondents were used corresponding to 15 in each barangay. The criterion in selecting the respondents was 2 to 3 number of mother stocks native pigs.

Study design and Analysis

The study used survey design through interview using questionnaires. An interview-survey was done to selected farmer-respondents and the barangay captains who served as key informant to validate secondary information and to answer more specific questions. Descriptive analysis was employed in the study using the mean, frequency, and percentages.

Data collection and analysis

A combination of instruments was used to gather the needed data; use of secondary data, and questionnaires. Secondary data was synthesized to establish the overall picture of native pig production and distribution scenario. Interviews of the native pig raisers were supplemented and by secondary data.

RESULTS AND DISCUSSION

Demographic Profile of the Respondents

Table 1 shows the demographic profile of the two-barangay respondents. In barangay Pita, The predominant raisers in native pig production are female (80%) and only 20% for male raisers. One hundred percent of the respondents are married. The mean age of farmers is 43.47 with the youngest, 25 and oldest, 73 years old. In terms of highest

educational attainment, majority of them are high school graduates (67%), followed by elementary graduates (20%), 13% of them are college level and none of them is college graduate.

Demographic profile of the native swine raisers in Barangay Babuyan is shown in Table 2. Eighty-seven percent is dominated by female pig raisers while 13% are male. There were 80% are married and 20% are single. The minimum age of the native pig raisers is 22 and the oldest is 72 years old. The mean age of the native pig raisers is 45.2. Majority of the respondents are elementary graduates (53%), followed by high school graduates (33%) and 6.67% apiece are college level and college graduate.

Background of native pig raisers of two Barangays

In Brgy. Pita, 20% of the farmers started of pig raising in 1986-1998. There were 13.33% in 2000-2003, 20% in 2008-2011 and 46.67% in 2012- 2015. Sixty percent of farmers that started a business in native pig raising at ₱500-1,000, while the 20% in amount of ₱2,000-3,000, and 6.67% apiece in amount of ₱4,000-5,000, ₱6,000-7,000, and ₱15,000, respectively.

It is noted that raisers who started with lower starting capital used only for purchasing piglets, while the rest of the raisers who used higher capital for the construction of housing for their native pig. Majority of the farmers has 2-sows (93.33%), while 6.67% has 3-sows. In terms of number of litters in a mother stock, in Brgy. Pita, majority pig raisers have eight (33.33%), followed by six and ten piglets (20%), and 13.33% has seven and nine piglets, respectively.

It is also noted that the main source of income is rice farming (93.33%) while native pig farming (6.67%) is considered as additional income for the respondents.

Table 1. Demographic profile of the Native swine raisers in Barangay Pita

Particular		Frequency	Percentage (%)	
Gender	Male	3	20.00	
	Female	12	80.00	
	Total	15	100.00	
Civil Status	Single	-	-	
	Married	15	100.00	
	Total	15	100.00	
Highest Educational Attainment	Elementary Graduate	3	20.00	
	High School Graduate	10	66.67	
	College Level	2	13.33	
	College Graduate	-	-	
	Total	15	100.00	
		Minimum	Maximum	Mean
Age		25	73	43.47

Table 2. Demographic profile of the Native swine raisers in Barangay Babuyan

Particular		Frequency	Percentage (%)	
Gender	Male	2	13.33	
	Female	13	86.67	
	Total	15	100.00	
Civil Status	Single	3	20.00	
	Married	12	80.00	
	Total	15	100.00	
Highest Educational Attainment	Elementary Graduate	8	53.33	
	High School Graduate	5	33.33	
	College Level	1	6.67	
	College Graduate	1	6.67	
	Total	15	100.00	
		Minimum	Maximum	Mean
Age		22	72	45.2

Table 3.Background of Native Pig Raisers in Barangay Pita

Particulars	Frequency	Percentage (%)
Year started in native pig raising		
1986 – 1998	3	20.00
2000 – 2003	2	13.33
2008 – 2011	3	20.00
2012 – 2015	7	46.67
Total	15	100
Starting Capital		
500 - 1,000	9	60.00
2,000 - 3,000	3	20.00
4,000 - 5,000	1	6.67
6,000 - 7,000	1	6.67
15,000	1	6.67
Total	15	100
Origin or Source of stock		
Pita, Infanta, Pangasinan	6	40.00
Babuyan, Infanta, Pangasinan	8	53.33
Doliman, Infanta, Pangasinan	1	6.67
Total	15	100.00
Number of mother stocks (sow)		
2	14	93.33
3	1	6.67
Total	15	100.00
No. of litters per Sow		
6	3	20.00
7	2	13.33
8	5	33.33
9	2	13.33
10	3	20.00
Total	15	100.00
Source of income		
Rice Farming	14	93.33
Raising Native Pig	1	6.67
Total	15	100.00

On the other hand, background of native pig raisers in Barangay Babuyan is shown in Table 4. There was 13.33 % farmer started in 2000-2003, and in 2004-2007. In 2008-2011 there were 26.67% and 46.67% in 2012-2015. In terms of starting capital, 66.67% started at ₱1,000, 26.67% of them in the amount of ₱2,000, and 6.66% at ₱3,000. According to pig

raisers, the starting capital was mainly used to purchase the piglets.

The origin of the native pig came from Barangay Pita (6.67%), majority came from Barangay Babuyan (66.67%), 13.33% were from both Barangay Guisguis and Guinabon. It is interesting to note that the majority of the respondents have 2 mother stocks or native pig

sows (86.67%), and 13.33% have 3 native pig sows.

In terms of number of litters, six piglets in one sow (13.33%) has been observed and recorded, 33.33% with seven, 46.67% with eight, and 6.67% with nine piglets. It is noted that the litters production per sow is better as

compared with the national record of 8 litters per sow (Geromo,1993). The main source of income in the respondents in Brgy Babuyan is the same as of that of Brgy Pita; rice farming (93.33%) and raising native pig with 2 respondents (6.67%).

Table 4. Background of Native Pig Raisers in Barangay Babuyan

Particulars	Frequency	Percentage (%)
Year started in native pig raising		
2000 – 2003	2	13.33
2004 – 2007	2	13.33
2008 – 2011	4	26.67
2012 – 2015	7	46.67
Total	15	100.00
Starting Capital		
1,000	10	66.67
2,000	4	26.67
3,000	1	6.66
Total	15	100.00
Origin or source of stock		
Pita, Infanta, Pangasinan	1	6.67
Babuyan, Infanta, Pangasinan	10	66.67
Guisguis, Sta. Cruz Zambales	2	13.33
Guinabon, Sta. Cruz Zambales	2	13.33
Total	15	100.00
Number of mother stocks (sow)		
2	13	86.67
3	2	13.33
Total	15	100.00
No. of litters per Sow		
6	2	13.33
7	5	33.33
8	7	46.67
9	1	6.67
Total	15	100.00
Other source of income		
Rice Farming	14	93.33
Raising Native Pig	1	6.67
Total	15	100.00

Production Practices

Rearing management and housing type. Rearing management and housing of native pig in two Barangays is shown in Table 5. Twenty-seven percent are in cage/pen in Barangay Pita and 13.33 % native pig for Babuyan. Majority in both Barangays were tethered/tied under the tree; 60.00 % and 66.67% corresponding to Barangays Pita and Babuyan, respectively. There were 13.33% and 20.00% corresponding to Pita and Babuyan, respectively as combination of cage and tied as type of housing

Common Native Pig Disease and Treatment

The common disease reported in the two Barangays is “scouring” or diarrhea among the native piglets. The treatment for scouring as reported by the respondent-farmers is shown in Table 6. In Barangay Pita, vetracine (26.67%) and herbal medicine (decocted guava leaves) 26.67% for the diarrhea of their native pigs were used. In Barangay Babuyan, diarrhea of their native pigs was treated with Lacindox and Loperamide-Diatabs was reported. Herbal medicine (decocted guava leaves) was also used. It is observed that both Barangays practiced the use of decocted guava leaves in treating diarrhea of their native pigs at 1-2 glasses given 2-3 times a day for the duration of 1 to 2 days.

Table 5. Rearing management and type of housing in two Barangays

Particulars	Barangay			
	Pita n=15	Percentage (%)	Babuyan n=15	Percentage (%)
A. Cage/Pen	4	27	2	13
1. Roofing materials				
<i>a. GI sheets (Yero)</i>	3		1	
<i>b. Cogon (Pawid)</i>	1		1	
Subtotal	4		2	
2. Flooring				
<i>a. Cemented</i>	4		2	
<i>b. Soil</i>	-		-	
Subtotal	4		2	
3. Siding/Wall type				
<i>a. Cemented</i>	1		2	
<i>b. Bamboo</i>	3		-	
Subtotal	4		2	
4. Feeding and Watering materials				
<i>a. Cemented</i>	4		2	
B. Tethered (Tied under the tree)	9	60	10	67
C. Combination (cage & tethered)	2	13	3	20
TOTAL	15	100	15	100

Table 6. Treatment of Scouring for Native Pig in two Barangays

Medicine Used	Barangay		No. of native pig raisers
	Pita (%)	Babuyan (%)	
Lacindox	-	7	1
Vetracine (<i>Doxycycline as hydrochloride</i>)	26	-	4
Loperamide - Diatabs	-	7	1
Herbal medicine Guava leaves	26	7	5
Total			11

Feeds and Feeding Management of Native Pig

The common feeding management practiced by the two Barangays is wet feeding, rice bran combined with water. For additional feedstuff they provide kangkong and ipil-ipil twice a day.

Marketing Practices and Financial Return of Native Pig Raising

Native pigs sold in Barangay Pita and Babuyan are mostly fatteners, 7-8 months old and/or depending on the size. Weanlings are not usually sold due to their size which is very small as compared with the commercial swine breed. The farmer's practice in raising native pig in the two Barangays is to raise the piglets into fatteners and they will be sold depending on the age and/or size of the animal, on the other hand, the sows are sold during culling.

Most of the pig buyers or consumers prefer the native pig because it is cheaper than the commercial pig in terms of its market price. According to the respondents, if there is an increase in the market price of the commercial pig meat or pork, they usually substitute the pork of native pig on their food basket. Also, native pigs are the main ingredients or main food menu in local events such as fiesta, wedding, birthday, and christening among others.

Price of Native Pig. Selling practices for Native Pig fatteners in the two Barangays are by "Bultuhan" or Wholesale, the selling of animals by batch or by group. However, the computed mean farm-gate price of native pig fattener per head in Barangay Pita is P 2,846, with the lowest farm-gate price of P 2,500 and the highest at P 3,000 per head. On the other hand, the mean

farm-gate price of fattener native pig per head in Barangay Babuyan is at P 2,404, with the lowest farm-gate price at P 1,425 and the highest at P 4,500 per head.

Prices of the native pig fattener varies because the respondent-farmers relies on the age and size of the animals to determine or agree on its farm-gate price.

Buyers of the Native Pig

Buyers of native pig as reported by the respondents come from the provinces of Pangasinan, Zambales and Benguet - Baguio City (Table 7). In Pangasinan, the municipality of Burgos, Alaminos City, Dagupan City and within the municipality of Infanta are the recorded buyers.

Table 7. Location of Buyers of Native Pig for Barangay Pita and Babuyan , Infanta, Pangasinan

Location	Barangay			
	<i>Pita</i>	Percentage (%)	<i>Babuyan</i>	Percentage (%)
Pangasinan				
- Infanta	13	62	17	65
- Alaminos City	-	-	1	4
- Burgos	1	5	-	-
- Dagupan City	1	5	8	31
Benguet				
- Baguio City	1	5	-	-
Zambales	5	23	-	-
Total	21	100	26	100

Note: Multiple responses

Financial Return in Native Pig Raising

The financial benefit of raising native pig in Barangay Pita, given that: the average litter per sow is 8 piglets; the native pig sow can farrow 2 times per year (farrowing index); the farmer has 2 native pig sow or mother stock; the computed average farm-gate price per head of fattener is at P 2,846. Therefore, the computed income is at P 91,072 for selling native pig fatteners in 1 production cycle or year (32 fatteners produced for 1 production cycle for 2 native pig sows per farmer).

On the other hand, the financial benefit of raising native pig in Barangay Babuyan given that: the average litter per sow is 7 piglets; the native pig sow can farrow 2 times per year (farrowing index); the respondent-farmer has 2 native pig sows or mother stock; the computed average farm-gate price per head of fattener is at P 2,404. Hence, the computed income is at P 67,312 for selling native pig fatteners in 1 production cycle or year (28 fatteners produced for 1 production cycle for 2 native pig sows per farmer).

Cost incurred in raising native pigs is mostly opportunity cost consisting of farm family labor and rice bran (*darak*) from the by-product of rice farming along with some minimum expenses such as interest on the capital, veterinary medicines, depreciation on cages (for some farmer-respondents).

CONCLUSION AND RECOMMENDATION

It can be concluded that majority of native pig raisers are female, mostly are married and majority are elementary graduate. On the management practices, the respondents raised native pigs by employing wet feeding with additional feedstuffs providing kangkong and ipil-ipil leaves twice a day. It is found out that native pigs were permanently and continuously raised in Infanta, Pangasinan because of its high value of marketability.

Raising native pig is recommended to the farmers because it is budget friendly, they live on a small scale, and they are omnivores. Aside from providing them with an alternative source of livelihood, these animals have been known to contain high-quality protein and to improve the breed of native pig in Western Pangasinan.

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