



# DETERMINANT OF MANAGEMENT OPTION FOR IMPROVED NATIVE PIG PRODUCTION IN MARINDUQUE, PHILIPPINES

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## Abstract

The native pig production is the source of livelihood in Marinduque, Philippines. The interest and perception of farmers are studied as basis of management option. Results showed that the farmers who are engaged in pig production belonged to age bracket from 41 years old to 60 years old (49.03%). They have 10 years of pig keeping experience. However, most of them prefer to grow the hybrid pig (66.46%). The wife usually take care of the pig (59.54%). The majority (76.61%) of farmer-respondents had disclosed no participation to trainings and/or seminar on pig production while all were unaware of the importance of record keeping.

**Keywords:** Age, Management, Period of experience, Preference, Record keeping

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## 1. Introduction

The native pig production is the common livelihood of several farm families in Marinduque, Philippines [1]. Marinduque is an island province located in the Southern Tagalog region with farming and fishing as the major sources of livelihood. The province is known as the source of native pigs for the lechon (roast whole pork) having supplied an average of 47,715 lechon pig yearly from 2012 to 2017 ([http://marinduquevet.ph/?page\\_id=438](http://marinduquevet.ph/?page_id=438)).

The native pig thrives well and usually grown in the coconut producing barangays in the province. However; the change in the socio-economic conditions, market forces, and relevant factors like the availability of breeding stocks, feed supply, government interventions, and the farmers perception and interest is believe to contribute in the success or failure of native pig production. Hence, the determinant of management option to focus on farmers' perception and interest is investigated.

## 2. Body of the article

### Data Collection

A total of 826 farmer-respondents from 47 barangays in five municipalities of Marinduque, Philippines were surveyed purposively. The farmer-respondents were identified using a snowball technique or referral technique through coordination with the barangay officials. A structured questionnaire was used during the face-to-face interview. The variables asked were the age of farmer-respondents, period of pig keeping experience, breed preference or choice of breed, who among the family members take care of the pig, the training and/or seminar attended on pig production, and keeping of records of pig production. The expected answers for the age and period of pig keeping experience were numerical while for the other variables were answered by Yes or No. Example; does your husband/wife take care of the pig?



#### Interpretation of Data

All data were encoded, evaluated, and analyzed. The frequency distribution and simple statistics (mean, median, mode) of the variables were determined. The age and period of pig keeping experience were tested for correlation. A summary table and graph were constructed.

### 3. Results and Discussion

#### *Age and Pig Keeping Experience*

The farmers who are engaged in pig production were mostly belonged to age bracket from 41 years old to 60 years old (49.03%). The majority of them have an age of 47 years old (mode year). Their age fell within the distribution curve at fourth degree polynomial ( $R^2=98.70\%$ ), which shows that 87 of the farmers chosen at random will have an age within the age bracket (Table 1 and Figure 1). Moreover, this finding shows that the pig farmers in Marinduque were relatively older than those in Ethiopia, India, and Kenya with ages that range from 28 years old to 50 years old [2-8].

Table 1. Summary statistics of the age (years old) of farmer-respondents who are engaged in pig production in selected locations in Marinduque, Philippines.

PARAMETER	VALUE
n respondents	826
Minimum, years old	17
Maximum, years old	84
Median, years old	50
Mode, years old	47
Mean, years old	49.84
Standard Deviation, years old	13.64
Coefficient of Variation, %	27.36

Figure 1. Distribution based on age bracket of farmer-respondents who are engaged in native pig production from selected locations in Marinduque, Philippines.

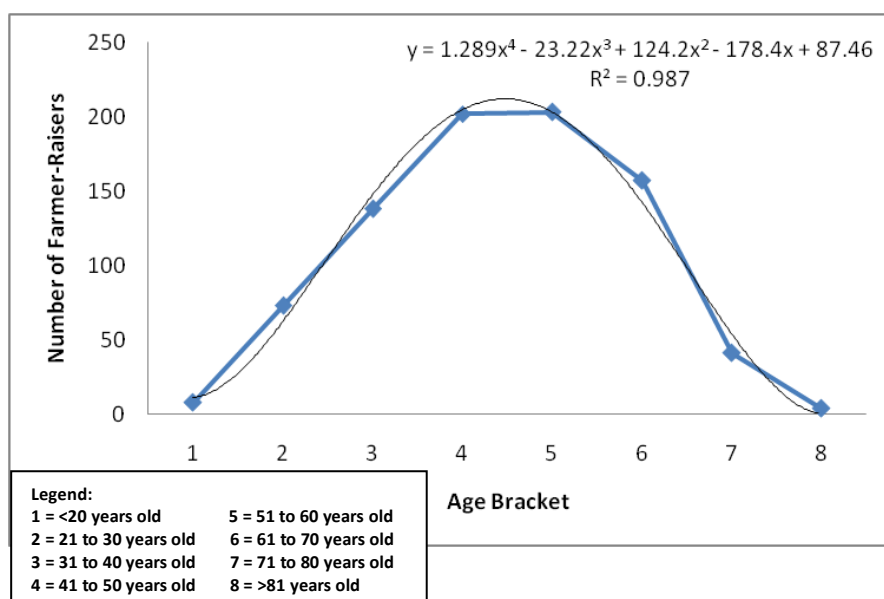


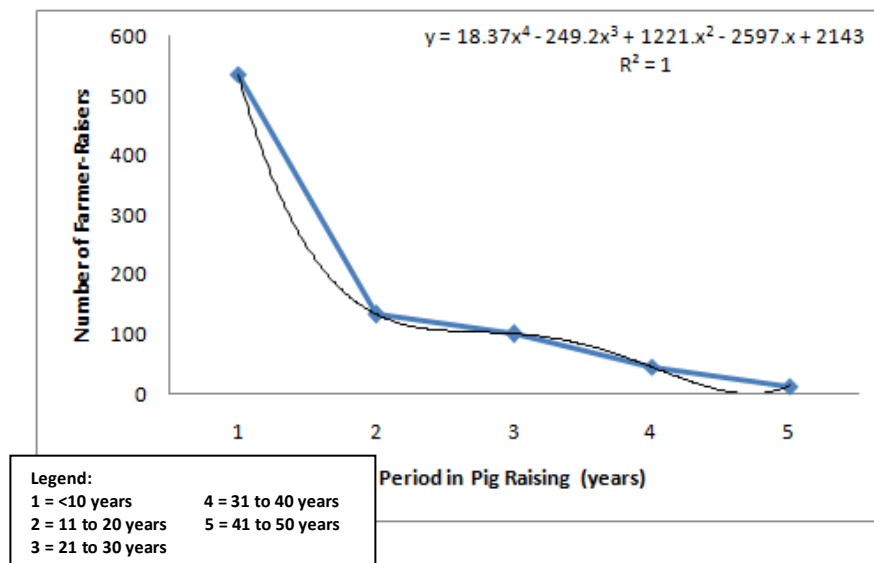


Table 2. Summary statistics of the period (years) of experience of farmer-respondents who are engaged in pig production in selected locations in Marinduque, Philippines.

PARAMETER	VALUE
n respondents	826
Minimum, years	0.10
Maximum, years	50
Median, years	10
Mode, years	10
Mean, years	12.40
Standard Deviation, years	11.70
Coefficient of Variation, %	94.36

The period of pig keeping experience was 10 years (64.89%) with mean years of 12.40. (Table 1 and Figure 2).

Figure 2. Distribution based on period bracket (years) of experience in pig production of farmer-respondents who are engaged in native pig production from selected locations in Marinduque, Philippines.



This period of pig keeping experience was almost related with those in Ethiopia and Kenya which ranges from 3.3 years to 11.4 years [2,4-5]. India, on the other hand, has the longest years of pig keeping experience from 18 years to 26 years [7]. Nevertheless, it can be predicted that the 2,143 farmers chosen at random will have a pig keeping experience of almost 10 years ( $R^2=100$ ). Another hypothesis shows that as the age of the farmers' progresses, their period of pig keeping experience increases at 46.29% probability with 17 farmers to belong in this trend (Figure 3).



Figure 3. Trends of experience in pig production in relation to age of farmer-respondents who are engaged in native pig production from selected locations in Marinduque, Philippines.



### *Preference of Breed*

The majority (66.46%) of the farmer-respondents prefer to raise a hybrid pig than the native pig. This current finding shows a transition of preference in the choice of breed from the 62.16% for the native pig on year 2005 to the current observation of 33.54% [1].

Table 3. Change in the preference of farmer-respondents who are engaged in pig production in selected locations in Marinduque, Philippines.

PARAMETER	COUNT	PERCENT
n respondents	826	100.00
Native pig is preferred	277	33.54
Native pig is not preferred	549	66.46

### *Family Labor*

All farmer-respondents had reported that their pig production is managed through the family labour. The wife (59.54%) is usually in-charge in taking care of the pig. This finding holds true in other countries like India and Kenya where the wife takes care of the pig [1-2,6,13].



Table 4. Distribution of the family labours in pig production in selected locations in Marinduque, Philippines.

FAMILY MEMBER	COUNT	PERCENT
n respondents	826	100.00
Wife	490	59.54
Husband	282	34.26
Both Husband and Wife	26	3.16
Male Children	17	2.07
Female Children	8	0.97

### *Training and Record Keeping*

The majority (76.61%) of farmer-respondents had disclosed no participation to trainings and/or seminar on pig production. The low support to extension services is primarily the key factor of low participation of farmers to trainings and/or seminar. Similarly, there was low to medium extension services in other countries like India [1,5]. Moreover, the low support to extension services had led to low level of innovativeness and scientific orientation on pig production [2-7,9-13]. The organized sector, on the other hand, had high level of extension support services [1]. The importance of training is directly associated to an increase in gross return by 65.71%, annual profit by 72.95%, and benefit-cost ratio by 10.02 percent [8].

Table 5. The basic support services in pig production in selected locations in Marinduque, Philippines.

PARAMETER	COUNT	PERCENT
n respondents	826	100.00
Attendance to training-seminar		
Yes	194	23.52
No	632	76.61
Keep records		
Yes	0	0.00
No	826	100.00

All of them were not keeping of records and/or unaware of the importance of record keeping. Similarly, the management constraint was perceived as the most serious constraints in pig production in India [5,7].

## **4. Acknowledgement**

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## **References**

- [1] Monleon, A. M.,2005, Local conservation efforts for the Philippine native pig (*Sus domesticus*) in Marinduque.,*Philippine J. Vet.Anim.Sci.* 32(1):79-86.
- [2] Payeng, S., Borgohain A., Bora, J. R.,2013, Economics of pig production in organized and unorganized sectors, *Indian Res. J. Ext. Edu.* 13(1):101-106.
- [3] Mutua, F. K., Dewey, C. E., Arimi, S. M., Ogara, W. O., Githigia, S. M., Levy, M., Schelling, E.,2011, Indigenous pig management practices in rural villages of Western Kenya. *Livestock Research for Rural Development.* 23(7):



- [4] Goraga, Z. S., Mengesha, M., Miele, M., de Lima, G. J. M. M.,2015, Swine production in Ethiopia: I. Socio-economic characteristics of producers and motivational drivers. *Global Science Research Journals*. 3(7): 279-287.
- [5] Berihu, M., Tamir, B.,2015,. Socio-economic characteristics and management practices of small scale intensive pig production in East Shewa of Central Oromia, Ethiopia. *American Journal of Scientific and Industrial Research*. doi:10.5251/ajsir.2015.6.4.82.89.
- [6] Tochwawng, L., Rewani, S. K.,2013, Constraint analysis of backyard pig farming in tribal areas of Mizoram. *Indian Res. J. Ext. Edu*. 13(2):123-125.
- [7] Ahmed, N., Doley, S., Ahmed, K., Das, B. B.,2017, Socio-economic status of small scale pig farmers in rural communities of Tripura. *International Journal of Chemical Studies*. 5(3):102-104.
- [8] Shyam, J., Tripathi, H., Yadav, J.,2015, Constraint analysis of backyard pig production in tribal areas of Assam. *Veterinary Science Research Journal*. 6(1):36-41.
- [9] Mekuriaw, Y., Asmare, B.,2014, Assessment of pig production and constraints in Mecha district, Amhara region, Northwestern Ethiopia. *Advances in Agriculture*.  
<http://dx.doi.org/10.1155/2014/329254>.
- [10] Saikia, H., Saud, R. K., Kalita, D. N., Kalita, S.,2017, Impact of piggery training on the income level and profit of pig farmers- A case study in Kamrup district of Assam (India). *Indian J. Agric. Res*. 51(6): 619-622.
- [11] Islam, R., Nath, P., Bharali, A., 2016, Constraints perceived by the small scale pig farmers in Sivasagar district: An analysis. *The Asian Journal of Animal Science*, 11(1):73-77.
- [12] Patr, M. K., Begum, S., Deka, B. C., 2014, Problems and prospects of traditional pig farming for tribal livelihood in Nagaland. *Indian Res. J. Ext. Edu*. 14(4): 6-11.
- [13] Mutua, F., Arimi, S., Ogara, W., Dewey, C., Schelling, E., 2010, Farmer perceptions on indigenous pig farming in Kakamega district, Western Kenya, *Nordic Journal of African Studies*. 19(1):43-57.

## **A Brief Author Biography**

**Diosdado P. Zulueta** – he is an educator – a College Professor in Marinduque State College, public servant, researcher, extensionist, advocator of social change, media practitioner, ISO Lead Auditor, AACUP Accreditor, Paul Harris Fellow, Roya Institute of Public Administrators Fellow and an associate member of the National Research Council of the Philippines. He finished his degree Doctor of Public Administration in 2007 at the Polytechnic University of the Philippines and Master of Public Administration in 2005 at the Marinduque State College. His research interests include policy and management, environment, climate change and others. He is currently the Vice President for Administration and Finance at the same state college.