

# Factors that Encourage the Producers to Maintain Local Pig Production in the Subsistence Raising in East Timor

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## Abstract

The objective of this study was to evaluate the reasons of producer to maintain the subsistence production system of local pig in East Timor. About 1042 respondents were interviewed in six municipalities and each have been interviewed 10% of total producer's as respondents, using simple random method to selected the respondents and the interviews based on established questionnaires. The research result showed that about 49.90% of total respondents commented that they still maintain the subsistence production system because the productions costs is very low, and 29.94% of producer's said that subsistence production system is easy to be use and implement in anywhere. About 12.48% of total respondents commented that the subsistence production system on implementation no needed technical assistance and 7.68% of respondents said that the system is still appropriate with the genetics of local pigs. Besides that, 86.56% of the respondents classified the local pig raising activities as family additional activity. Therefore, it can be concluded that the producers still maintain the system due they are less able to finance these activities if use the modern or intensive production system, and also still consider it a less profitable business among other agricultural activities.

**Key words:** Local pig production system, producer, reasons, activity importance

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## 1. Introduction

Local Pig's production system has been regarded as a subsistence activity in East Timor and is normally with low-productivity and carried out by small farms in rural areas across the territory. The high cost of raising local pigs inflicts the community in general and specially the breeders choose to maintain the traditional subsistence raring system which is considered easy and almost requires no maintenance cost. In this rearing system the breeders only let their pigs live freely to fine their own food and are given additional food when available, together and disputing among themselves the same food offered. The system characterizes primitive raising, without using the appropriate technologies and, therefore, presents low levels of production. Other factors that cause the breeders maintaining or using the subsistence system, due the breeders lack information about how to use the modern production system and can convince them of affordable cost. On the other hand, the activity raising pigs still considered as a secondary importance in the family and or only as hobby. In this way, the breeding is intended for the supply of meat and fat for subsistence and the surplus is traded regionally, that means, the animals are raised to meet the basic needs of the family to responds the social obligations, to be sold in case of needed to supply the family economy, and to be consumed on special occasions.

Based on the result of the National Statistical Census (NSC) on 2010, the country has a herd size of 330,435 pigs distributed in 13 municipalities with an average density of 2 to 4 pigs per breeding establishment. However, the result of the NSC on 2015 showed that pig production increased by about 26,85%, that is, with a total herd size 419,169 animals over a period of five years, with the national average density 2 to 6 animals per establishment only.

However, the traditional production systems make it possible to respond adequately to production needs in order to take advantage of local resources and native breeds. For this activity to be viable and profitable for producers, it is necessary to introduce modern or advanced production systems in order to improve animal productivity and quality of production. Based on the census result of the Ministry of Agriculture and Fishery (MAP) in 2019, it shows that approximately 10% of total private households recorded in 2015 as farmers have left their profession as producer's, even though there is any addition of 4,31% of new private households within 4 years. Thus the use of technologies maybe one of the best strategy for making and keeping the producers competitive, thus preventing them from abandoning the activity and subsequently ownership. Nevertheless, care needs to transfer of knowledge about the use of technology in raising pigs herb, because it is not necessary to eliminate the local pigs breeds that are already very popular with general public. For that, it is necessary to be transmitted in a rational, organized way to the producers, preserving the native breeds, with low production cost, identifying the causes of the animals' low performance and try to increasing the productivity of the sows. Therefore, the existence of productivity targets for the herd is an essential element for monitoring the performance of the system and for diagnosing the problem of animal production. This work aims to evaluate the reasons and the factors inflicts the breeders still maintaining the subsistence production system so far in East Timor.

**2. Methodology**

The study was carried out in six municipalities in East Timor. Two municipalities located in southern part of the country. Two municipalities located in the southwest and two municipalities located in west of the country. Each municipality chosen 10% of the total registered producers according to Ministry of Finance (MF) Census (2015) and Ministry of Agriculture and Fishery (MAP) Census (2019). Using the purposive method sampling to determine the municipalities according with large concentration of pig’s and using simple random sampling method to selected the respondents. Thus, about 1042 producers of total producers have been selected as respondents and interviewed in this study.

The variables observed and interviewed in this study were the reasons and the factors that inflicts the producers to maintain the subsistence production system in their activity, and the classification and importance of the local pig breeding activity.

Data collection between May to November 2018. During the visits, a semi-structured questionnaire was applied to obtain the data. Observations and interventions were carried out by the same group with the same system to avoid inappropriate interpretation of data. The data obtained or collected were subjected to statistical analysis (quantitative) according to Sampurna and Nindhia (2008)

**3. Results and Discussion**

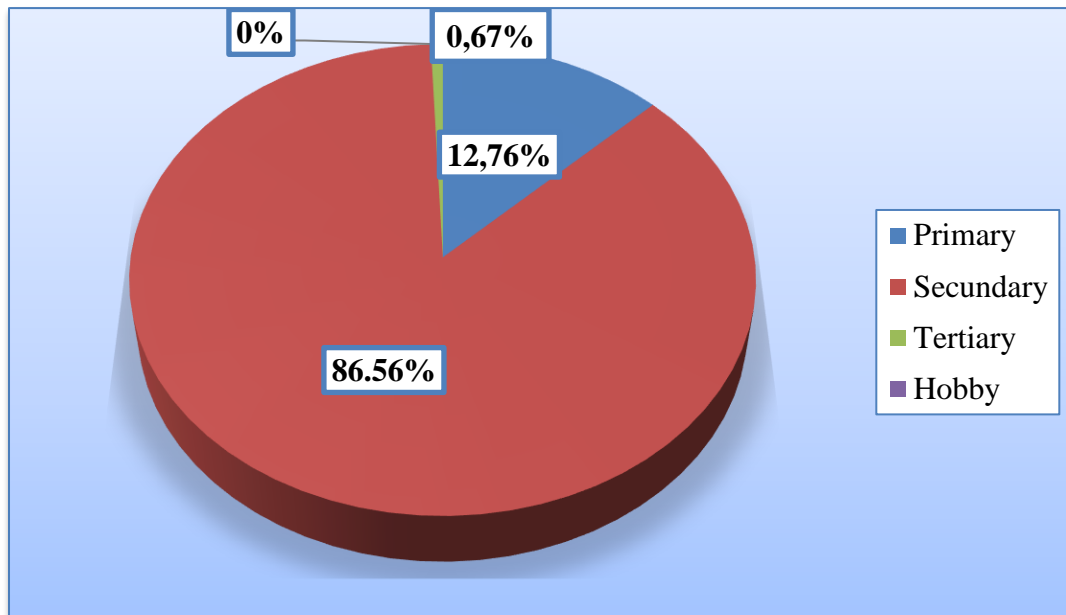
The result of data analysis referring to the factors that encourage local producers to maintain local pig raising in the subsistence system as shown in Table 1. It was found that 49.90% of the total interviewees have stated that raising local pigs in a subsistence production system is almost costless or very cheap and easy to implement in rural areas. About 9.60% of the total respondents said that the system is very easy to implement and there is no need for a special area to raise the local pigs, and 12.38% of respondents stated that the maintenance does not require technical assistance.

All respondents stated that the animals are rearing free in the common areas and fed twice a day without worrying about the quantity and quality of food provided. In this breeding system, all animals from different stages of production competed together for the same food provided according to their agility and strength. In addition, 49,90% of the total respondents considered that raising local pigs in subsistence production systems is with low production cost and around 29,94% of the total producers said that raising with subsistence systems is easy on implementation, and due is only as a secondary activities of other agricultural activities such as growing coffee, rice, corn, potato and vegetables. Apart from that around, 12,48% of respondents said that no need technical assistance in local pigs raising process, and around 7,68% of total the respondents still think that the subsistence breeding system is very compatible with the genetics of local pigs. On the other hand, the respondents stated the that the local pigs bred in subsistence production system without concern for productivity and technical control have low levels of productivity. The results indicate that the breeders do not have access to information about the evolution of modern maintenance with low implementation cost and are also affected by the economic weakness of breeders. In this case, the producers are pay less attention to the needs of the animals so that not get the high production and productivity in these activities and finally the producers have been concluded that the economic value of other agricultural commodities is still better and it is easier to sell them at a higher price. In East Timor, pigs have a very important function in meeting the needs of the community in general and specially the needs of breeders (Gomes and Mali Code, 2019). There are three main functions, among others, as a very valuable material in the affairs of custom, have a very high social contribution and economic value that exceeds Balinese cattle (Gomes, 2015).

**Table 1- Results of principals factors observed and interviewed in the study**

Factors	Total Resp.	Percentage (%)
Low production cost	520	49.90
Easy on implementation	312	29.94
No need technical assistance	130	12.48
Aproprate with local genetics	80	7.68
No comment / answer	0	0.00
Total	1042	100.00

The breeders have classified local pig raising activities into four classifications as shown in Graphic 1. Most of the respondents (86.56%) still considering the activity to be a second importance among of other activities, which greatly effects the development production and productivity of local pigs.



**Graphic 1- Classification of importance of raising local pig in East Timor**

The data presented in Table 1 and Graphic 1 showed that the factors that still encourage breeders to maintenance the local pig raising in subsistence production system are things that are very basic and related to the level of knowledge of the breeders and lack of information about the advantages of local pig's productions. Find out the modern maintenance systems possibly can be help the breeders to change their thinking and behavior from the subsistence production system to modern or intensive production system with high quality production and good productivity of local pig.

According to Gomes et al (2016) about 80 - 98% of local pig breeders in East Timor still use the subsistence production system with some supplementary food regardless of the quantity and quality of food supplied. The actor emphasized that this system has a high negative effect of livestock development, so that it takes a very long time to reach the ideal body weight for live sale or obtain a high profitable percentage of carcass. According to Sobestiansky (1998), the sow must start breeding when it reaches 10 to 12 months of age and is developing well. The sexual maturity of gilts occurs between 5.5 to 6.5 months of age, with some variations depending on genetics, nutrition, management and the environment where they are housed. To increase the productivity of animals, it is necessary to use males and females of high genetic quality in the breeding stock (Fraga et al., 2007).

#### 4. Conclusions

The production system used in all villages is the subsistence production system with low cost need not technical assistance. The producer's only provided additional food for pigs without considering the quantity and quality of the food offered. Therefore, it can be concluded that the producers still maintain these systems because they are less able to finance these activities if use the modern production system and also still consider it a less profitable business among other agricultural activities.

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**Conflict of Interest Declaration** - I want to certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript

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