Break-Even Analysis of Swine Farming in North-Eastern Tamil Nadu, India

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Abstract

The study was conducted in north-eastern agro climatic zone of Tamil Nadu State, India with the objective of identifying Break-even point of output in swine farming. The data regarding swine farming were collected from a random sample of 45 farmers selected from the study area. The samples were post stratified into small (1-8 sows), medium (9-16 sows) and large farms (above 16 sows) based on the number of sows maintained in the farms. Tabular analysis such as simple averages and percentages were done to derive cost components of swine farms in the study area. As a result, overall sample farmer’s fixed investment is Rs 5,10,760, fixed cost is Rs. 1,91,991 and variable cost is Rs.1,98,064. Study also found that the variable cost per kilogram of pork production in the study area is Rs. 34.91 and returns per kilogram of pork production is Rs. 96.46. Break-even Analysis was used to identify the Break-even point in swine farming in study area. A farm with an investment of Rs. 5,10,760.00 has to produce at least 3,119.37 Kg (30 animals) of live pork per annum to meet the break-even point. To operate the pig farm without any profit or loss the farmers has to keep at least 30 animals per annum.

Key words: Swine farming, Break-Even Point

Introduction

Pig farming has become a profitable enterprise since it possesses many economic traits, such as High prolificacy, Faster growth rate, Shorter generation interval, Low cost of rearing, High dressing percentage, Better feed conversion efficiency, quick economic returns, Convert inedible feed into valuable products, Require less labour, Adopt most type of farming system, Aid soil fertility, Supplement other industries, etc. As per the livestock census of the year 2007, the population of pigs shows the negative annual compound growth rate (-4.74 per cent for India and -2.99 per cent for Tamil Nadu). This shows that the Swine husbandry had not gained the main stage in meat production sector in nation as well as state. To develop the pig production in the country, the piggery sector should attract the entrepreneurs with the hope of developing their economical status. To reach the better pig production in our country, proper realistic plans should be implemented throughout various agro-climatic regions of our country. Hence, realization of importance of pig production is essential, which necessitates the study on economic aspect of pig production. Apart from this, most of the pig rearers are from weaker section of the society and illiterate. Hence, to educate them for recouping their investments this study focused on identifying the break-even point of swine production in North-eastern Tamil Nadu.

Materials and Method

The study was conducted in Tamil Nadu State with the objective of studying the break-even point of swine farming in the study area. The data regarding swine farming were collected from a random sample of 45 farmers selected from North-Eastern agro-climatic Zone of Tamil Nadu (Chennai, Thiruvallur, Kancheepuram, Thiruvannamalai, Vellore, Villupuram and Cuddalore. For the present study Chennai districts was excluded as there were no swine production farms in the district) which were post stratified into small (1-8 sows), medium (9-16 sows) and large farms (above 16 sows) based on the number of sows maintained in the farms based on the study of Sharma et al. (1997) and Jain and Pandey (2000). The data were collected by personal interview method with the help of pre-tested
questionnaire and the data pertained to the year 2013-2014. The sample farms consist of 36 small farmers, 6 medium farmers and 3 large farmers. Tabular analysis such as simple averages and percentages were done to derive cost components of swine farms in the study area. Break-even Analysis was used to identify the profitability and Break-even point in swine farming in study area.

**Break-Even Analysis**

The break-even analysis was used to determine the optimum size of operating pig farms based on the study of Selvakumar et al. (1992) and Phiri (2012). Break-even point is one which equate total cost and return without any profit. Break-even point provided an economic tool for business calculations in the area of profit management. The underlying assumptions of this analysis are:

a) Linear transformation of cost and revenue functions are the form \( Y = a + bx \)
b) Fixed price for factors and products.
c) Absence of inventory of produced goods.

The break-even quantity (BEQ) of pig farm was determined by using the following formula:

\[
\text{Break-Even Quantity} = \frac{\text{Fixed cost per farm}}{\text{Return per kilogram of live weight of pork} - \text{Variable cost per kilogram of live weight of pork}}
\]

**Results and Discussion**

**Break-Even Analysis of swine farming**

Break-even analysis was done to find out the quantum of live pork to be produced per farm so that the farms will continue production. Technically break-even could indicate the minimum quantity of pork to be produced to meet the total cost incurred. This would also give the minimum number of animals to be kept in each farm. The details of break-even analysis of pork production are furnished in Table 1.0. From the table it could be observed that small farmers have to produce 2189.84 kg of pork per annum to attain break-even or recoups their expenditure on swine farm. The same for medium and large farmers was 4239.74 and 8430.98 kilograms respectively. Small, Medium and Large farmers in the study area should maintain 20, 42 and 93 pigs respectively to operate the farms without any loss or Profit.

The results of break-even analysis indicated that a farm with an investment of Rs. 510760.00 has to produce at least 3119.37 Kg of pork to meet the break even output. Further, to produce the break-even quantity of pork they should maintain at least 30 animals per farm.

**Conclusion**

Based on the study it has been concluded that, small farmers in the study area need to produce 2189.84 kg of pork per annum to attain break-even or recoups their expenditure on swine farm. The same for medium and large farmers was 4239.74 and 8430.98 kilograms respectively. Small, Medium and Large farmers in the study area should maintain 20, 42 and 93 pigs respectively to operate the farms without any loss or Profit.

**Acknowledgement**

Authors are thankful to Tamil Nadu Veterinary and Animal Sciences University, Chennai, India.

**References**


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