

# Cost and Return Analysis Sheep Fattening in Gombi Local Government Area of Adamawa State, Nigeria.

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**Abstract-** The study examined the cost and return of sheep fattening in Gombi Local Area of Adamawa State, it focus on profitability of the sheep fattening in the study area and factors militating against sheep in the sheep fattening in the area. Data were collected from a random sample of 90 sheep fatteners by means of snow ball sampling technique to which questionnaires were administered. The data were analyzed using descriptive statistics to describe the constraint associated with sheep fattening and Gross Margin was used to determine the profitability of sheep fattening . The major problems facing the farmers include high cost of feeds, inadequate credit facilities, and high cost of medication. A policy and research emphasis should be geared toward feeds production at affordable price to the fatteners and fatteners should be educated on how to formulate local feeds to reduce cost and access to feeds for better efficiency

## I. INTRODUCTION

Livestock is an integral component of agriculture in the study area and make multifaceted contribution to the growth and development in agricultural sectors. Sheep fattening has been an instrument to socio-economic change to improved income and quality of life. Unfortunately, under traditional management system the animal depend mostly on household waste and bush grazing which do not provide adequate level of nutrition for optimum production or performance. The animal also suffers heavy mortality due to problems of diseases and parasitic infections, while the productivity for surviving one may be low. The demand for animal protein in Nigeria like in other developing countries of the world is far from being met Okuneye(2000). According to Okuneye(2000) the levels of consumption of animal protein in Nigeria was estimated to be about 8g per day, which is about 27g less than minimum requirement (37g) recommended by national council of united State of America (NCUSA). This problem of shortage of animal protein has led to increased nutritional and mal-nutritional diseases and disorder such as Kwashiorkor, Marasmus and retarded growth.

Despite of all the contributions the livestock sub-sector is a relatively neglected part of agriculture with its supporting services collapsing well ahead of others (Oni, 2006). it is important to carry out a research on cost and return analysis of sheep fattening as a means of ascertaining the profitability of scarce resources used by the farmers to maximize their profit at the long run

## II. METHODOLOGY

### The Study Area

The study was conducted in Gombi Local Government Area, Adamawa state, Nigeria. The local government area is located in the North-Eastern part of Adamawa state lying between latitude 10-11<sup>o</sup>, 40' North and longitude 12-20<sup>o</sup>'' east (Adebayo *et al.*, 1999). The local government shares common boundaries with Hong Local Government to the east, Song Local Government Area to the South, Shani and Hawul Local Government area of Borno State (Adebayo *et al.*, 1999).

Gombi Local Government is the fourth largest in Adamawa State. The total land area is approximately 2,093.3 square kilometers, the population constitutes an essentials segment of the resources based and development potential of any society. With an estimated population of 101,100 people according to 2006 population census in Nigeria (CBN 2007), this population is made up of several ethnic groups, among which are Bura, Ngwaba, Hwona, Fulani, Ga'ada, Lala, Kilba, Chibok, Margi, and Yungur. These heterogeneous ethnic groups have been coexisting peacefully and they play greater attention to agriculture and trade.

Farming is the major occupation of the people of the area with cowpea and maize as the most cultivated crops. Other crops cultivated include soybeans, rice, and sorghum. However, the people also engage in some activities like rearing of animals, fishing, hunting, and trading. The vegetation is guinea savannah with tall grasses and short scattered grasses and tress. It has a hilly and mountainous terrain. The hill has a general height of about 750-800 meters above sea level. Some of the physical features found around the area include, Garkida Fwuhar escarpment, Virgwi escarpment, Ga'anda escarpment and Girgithlang hills which form part of the undulating landscape.

### Sources of Data

Primary data were used, for this study, which involved the use of questionnaires and scheduled interviews. The information gathered includes those on socio-economic variables of the sampled fatteners, cost of input used in sheep fattening, cost of sheep fattening, values of feed, drug s and labor. Other costs were computed on depreciation on fixed assets such as feeders, drinkers, rakes, wheel barrow, buckets and financial parameters have been calculated.

### Sample Size and Sampling Procedure

Gombi Local Government Area is divided into ten (10) political wards. Five (5) of the wards were purposively selected

(Garkida, Gombi South, Gombi North, Guyaku and Tuffa) because of their involvement in the sheep fattening business. Two villages have also been purposively selected from each ward to make up to ten. By this, a total of 100 sheep fatteners have been selected from the ten villages by means of snow ball sampling technique to which questionnaires were administered in order to have data for the study. The information collected includes the production costs, returns and production constraints.

**Analytical Techniques**

**Descriptive statistics**

$$\frac{\text{observed frequency}}{\text{total frequency}} \times 100$$

a. Percentage (%) =

$\Sigma f$  = summation of all frequency.

**Gross Margin Analysis**

**Gross Margin Analysis (Budgeting Techniques):**

budgeting techniques have been used to estimate cost and returns to sheep fattening. The budgeting technique will specifically use gross margin analysis through which the Net Farm Income also was obtained, Rahman, *et-al.*, (2002) the model is stated thus:

$$GM = GI - TVC \dots\dots\dots (1)$$

Where: GM = Gross Margin

GI = Goss Income

TVC = Total Variable Cost

$$NFI = GM - TFC \dots\dots\dots (2)$$

Where: NFI = Net Farm Income

GM = Gross Margin

TFC = Total Fixed Cost

**Cost and Returns of Sheep Fattening in the study area**

The profitability of any business can be deduced from the relationship between the cost incurred in running the farm business and the returns incurring to it. (Adegeye and Dittoh, 1985). The cost and returns associated with sheep fattening in the study area is presented in Table 1.

The result of the farm budgeting analysis revealed that the cost of sheep constitute two main components, as direct and indirect cost. Direct cost of fattening comprise of various variable cost such as cost of sheep, feeds, health care service, water and salt-lick (Mulla, 1997). On the other hand, indirect cost covered depreciation on fixed capital and equipment such as durable drinkers, spade, wheel barrow, bucket and rakes. The cost of sheep which has 39.33% was the highest among the variable cost while the least among the variable costs was transportation (0.65%). In general 98.72% of the total cost of sheep fattening accounted for variable cost while 1.28% of the total cost was fixed cost.

The cost of transportation was very low (0.65%); this may attributed to the nearness of the farmers to Song and Gombi local markets as well as Mubi international market; hence less cost of transportation was incurred by the farmers. The high cost of feed (19.68%) was as results of the system of animal husbandry (intensive system) practiced as it is essential for continuous purchase of feeds throughout the fattening cycle. It was also discovered that the feed were scarce as at the time of this research being dry season, hence the high cost of feed in the study area.

The significant contribution of sheep fattening activities is that it supplement income source greatly to the famers. Table 1 shows that on the average cost of sheep fattened were ₦ 12,997.64 and returns of ₦ 34,566.22 per ram. After 2-3 months of sheep fattening, farmers obtained profit ₦ 16,448.33 per ram, which implies that sheep fattening enterprise is profitable alternative income opportunity in rural and urban areas. Most of the participating farmers were satisfied with the net income (₦ 16, 211.82) / ram obtained from sheep fattening especially with the advantage of the short duration.

This result is in corroboration with the work of Babale *et al.*, (2012), who in their study on the status of small ruminant fattening in Adamawa State, Nigeria discovered that ‘‘fattening of animals is a highly profitable venture with returns of premium to the farmers’’ Sanda (2011), who also in their study on the economics of small scale goat production revealed that ‘‘the profitability in this business is low compared to that of cattle fattening’’.

**Table 1. Total Cost and Returns of Sheep Fattening in the Study Area.**

<b>Inputs</b>	<b>Costs (₦)</b>	<b>Percentage</b>
Sheep	16,585,000	70.27%
Feeds	4,627,348.50	19.68%
Medication	367,800.00	1.56%
Labor	860,600.00	3.66%
Salt-lick	219,963.00	0.93%
Water	484,144.00	2.05%
Transportation	153,620.00	0.65%
<b>Total Variable Cost (TVC)</b>	<b>23,298,475.5</b>	<b>98.72%</b>
<b>Costs of Depre. on Fixed Assets (FC)</b>	<b>301,790.30</b>	<b>1.28 %</b>
<b>Total Costs of Fattening (TVC+FC)</b>	<b>23,600,265.80</b>	<b>100%</b>
<b>Returns;</b>		
Total number of sheep	1276.00	
Total revenue (TR)	44,106,500.00	
Average selling price/ram	34,566.220	
Total Gross Margin (TR-TVC)	208,08024.5	

Total Gross Margin per ram	16,307.220
Total Net Income (TR-TVC-TFC)	20,506,234.20
Net Income per ram	16070.71

Field survey, 2013.

### Identified Problems Faced by Sheep Fatteners.

Analysis of the problems faced by the fatteners in the study area revealed that about 14.88% reported that high cost of feeding the animals, 13.90% reported inadequate credit to improve their business, while about 12.5% complained that high cost of medication affect their fattening venture. About 12.10% of the respondents reported that pest and disease as a threat to the business. Notably 11.90% reported poor pricing as a factor that affects the profitability of the business. About 9.92% of the respondents were of the opinion that transportation has been a problem affecting business. Other problems mentioned among fatteners are inadequate extension service as reported by 8.92%,

high cost of water by 7.94%, high cost of labour about 6.94% and 0.99% reported by others.

High cost of feeds (14.88%) and inadequate credit facilities (13.90%) constituted the major problem to sheep fattening in the study area. High cost of feeds was revealed to be as a result of the nature of fattening process being an intensive project that requires regular demand for feeds in the study area.

Similarly, inadequate credit could be as a result of lack of collateral which has made it almost impossible for him to be able to access credit from the bank.

<b>Table 2:</b> <b>Problems</b>	<b>Problems</b>	<b>Affecting</b>	<b>Sheep</b>	<b>Fattening:</b>
		<b>Frequency</b>		<b>Percentage</b>
High cost of feeds		75		14.88
Inadequate credit facilities		70		13.90
High cost of medication		63		12.5
Pest and disease attack		61		12.10
Poor pricing policy		60		11.90
Transportation problems		50		9.92
Inadequate extension services		45		8.92
High cost of water		40		7.94
High cost of labour		35		6.94
Others		5		0.99

### III. CONCLUSIONS

From the finding of this study, sheep fattening business was revealed to be profitable and worth venturing into as a source of income. Hence less and greater uses of feeds and medication are recommended respectively for optimal profit maximization. It was also discovered in the study that keeping sheep longer than necessarily led to depreciated profit at long run

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