Detailed Project Report (DPR) of Sheep Husbandry as a Source of Indian Meat Industry Depicted by Powerful Spreadsheet Programming

Sai Mahesh Reddy Avula*, Satyanarayana Merupula*, Ganesh A Ch. S.**

Author Affiliation: *N. T. R. College of Veterinary Science, Gannavaram-521102, Krishna District, Andhra Pradesh, India. **College of Veterinary Science, Rajendra Nagar-500030, Ranga Reddy District, Telangana, India.

Reprint Request: Saimahesh Reddy Avula, Teaching Faculty, Dept. of Veterinary Pharmacology and Toxicology, College of Veterinary Science, Gannavaram, Krishna, A.P- 521102.
E-mail: maheshreddy041@gmail.com

Abstract

For obtaining bank loan, the farmers should apply to the nearest branch of a Commercial, Co-operative or Regional Rural Bank in their area in the prescribed application form which is available in the branches of financing bank. The Technical officer attached to or the Manager of the bank can help / give guidance to the farmers in preparing the project report to obtain bank loan by using conventional method which is basically a complex and time consuming. In today's era of Smart phones, tablet PCs and Notebooks where a spreadsheet program in the form of Excel is readily accessible by most veterinarians, it should be possible to adapt the various laborious steps involved in the said method to a spreadsheet program. This model would provide a more informed decision making process in management for maximal economic profitability. We made modifications to an existing conventional method and simulated the conventional model and we assure this is going to be a trend setting model in making detailed project reports.

Keywords: Spreadsheet Program; Smart Phones; Excel; Regional Rural Bank.

Introduction

Sheep with its multi-facet utility for meat, wool, milk, skins and manure, form an important component of rural economy particularly in the arid, semi-arid and mountainous areas of the country. It provides a dependable source of income to the shepherds through sale of wool and animals. It is almost impossible for a middle class man who is willing to establish this but loan from banks with re-finance facility from NABARD is available for starting sheep farming. For obtaining bank loan, the farmers should apply to the nearest branch of a Commercial, Co-operative or Regional Rural Bank in their area in the prescribed application form which is available in the branches of financing bank. The Technical officer attached to or the Manager of the bank can help / give guidance to the farmers in preparing the project report to obtain bank loan. For sheep development schemes with very large outlays,

detailed reports of high value of good expertise will have to be prepared; this is definitely a big and difficult task for the veterinarian to prepare such deal. Hence, we made an attempt to simplify the traditional way of making detailed project report to a handy, ready to use excel spread sheet.

Materials and Methods

The purpose of this spreadsheet is to allow prediction of the income and expenditure of the project based upon measureable or observable, characteristics of farm. Terminology for required inputs is self-explanatory.

The spreadsheet program is based on the various steps involved in conventional method by the following inputs or assumptions:

1. Techno-Economic Assumptions which involves Type of animal, Initial Capacity, Cost of animals

(Rs./animal), Feed consumption (Kg/day), No. of days of Feeding/Cycle, Cost of Feed, Floor space requirement (Sq.ft/animal), Cost of construction (Rs./Sq.ft) (Thatched), Cost of equipment (Rs./animal), Insurance premium/animal (%), Veterinary aid/animal/year (Rs.), Conception Rate (%), Inter Lambing period (months), Sale price of Ram Lamb (Rs./animal), Sale price of Ewe Lamb (Rs./animal), Sale price of culled ewes (Rs./animal), Income from manure (Rs./animal/year), Net Income towards Repayment (%) etc.

2. Details of Investment which involves Fixed Investment, Fixed Cost, Variable Cost etc.

3. Production Chart which involves Opening stock, Lambs born details, Mortality in Lambs, Lambs Sold, Culled, Closing Stock etc.

4. Income-Expenditure Statement

5. Profit And Loss Statement

6. Cash Flow Statement

7. Financial Analysis of The Project

Result

A spreadsheet program for the assessment of all the above steps was presented in different sheets. It may be noted that the calculations in the spreadsheet program are accurate from the representative example provided. The designed spreadsheet was checked for the accuracy (Fig. 1) and also for the extremes of values in the assessments.

Fig. 1: Snapshots taken from the actual spreadsheet of Detailed Bankable Project Reports

Here you can change your assumptions and the rest will be calculated automatically

Techno-Economic Assumptions			
1 Type of animal			
	Ram	Ewes	Lambs
2 Initial Capacity	1	20	
3 Cost of animals (Rs./animal)	1500	1150	
4 Feed consumption (Kg/day)	0.25	0.25	0.1
5 No. of days of Feeding/Cycle	120	90	30
6 Cost of Feed	4	4	4
7 Floor space requirement (Sq.ft/animal)	15	10	4
8 Cost of construction (Rs./Sq.ft) (Thatched)	35	35	35
9 Cost of equipment (Rs./animal)	10		
10 Insurance premium/animal (%)	4		
11 Rate of Interest (%)	12		
12 Depreciation on building (%)	10		
13 Depreciation on feeding equipment (%)	10		
15 Margin money requirement(%)	25		
16 Repayment period	6		
17 Veterinary aid/animal/year (Rs.)	20		
18 Conception Rate (%)	90		
19 Lambing %	90		
20 Mortality Rate in Lambs %	10		
21 Culling %	20		
22 Inter Lambing period (months)	12		
Returns			
23 Sale price of Ram Lamb (Rs./animal)	1250		
24 Sale price of Ewe Lamb (Rs./animal)	1200		
25 Sale price of culled ewes (Rs./animal)	1150		
26 Income from manure (Rs./animal/year)	25		
27 Net Income towards Repayment (%)	60		

Sl. No.	Particulars	(Rs.)
A	Fixed Investment	
1.	Cost of animals	
	a. Ram	1500
	b. Ewes	23000
2.	Cost of shed	9793
3.	Cost of equipment	372
	Total Fixed Investment	

Production Chart

Year	Opening stock				Lambs born		Mortality in Lambs		Lambs Sold		Culled Adult Famale	Transfer of Lambs to Adults	Closing Stock			
	Adult		Lamb										Adults		Lambs	
	Male	emale	Male	Female	Male	Female	Male	Female	Male	Female	Famale	to Adults	Male	Female	Male	Female
1	1	20	0	0	8	8	1	1	0	0	0	0	1	20	7	7
2	1	20	7	7	8	8	1	1	7	3	4	4	1	20	7	7
3	1	20	7	7	8	8	1	1	7	3	4	4	1	20	7	7
4	1	20	7	7	8	8	1	1	7	3	4	4	1	20	7	7
5	1	20	7	7	8	8	1	1	7	3	4	4	1	20	7	7
6	1	20	7	7	8	8	1	1	7	3	4	4	1	20	7	7

Income-Expenditure Statement

Particulars	I year	II year	III year	IV year	V year	VI year
Income						
From Sale of Male Lambs	0	9113	9113	9113	9113	9113
From sale of Female Lambs	0	4113	4113	4113	4113	4113
From sale of culled Ewes	0	4600	4600	4600	4600	4600
From sale of manures	728	728	728	728	728	728
From Residual value						24150
Total Income	728	18553	18553	18553	18553	42703
Expenditure						
Cost of feeding						
a.Ewes	1800	1800	1800	1800	1800	1800
b.Ram	120	120	120	120	120	120
c. Lambs	194	194	194	194	194	194
Insurance cost	980	980	980	980	980	980
Veterinary aid	582	582	582	582	582	582
On depreciation						
-Building	979	881	793	714	643	578
-Equipment	37	33	30	27	24	22
On interest	3000	3000	2289	1493	601	0
Total Expenditure	7693	7591	6789	5910	4944	4277

Profit and Loss Statement

Particulars	I year	II year	III year	IV year	V year	VI year
Expenditure						
Total Expenditure	7693	7591	6789	5910	4944	4277
Net Expenditure (TE- Dep &Int)	3676	3676	3676	3676	3676	3676
Income						
Total Income (TI)	728	18553	18553	18553	18553	42703
Net Income (TI-NE)	-2949	14876	14876	14876	14876	39026

Repayment Schedule

Year	Open Balanc	Interest	Net Incom	Repayment of Pncipal	Repayment of Interest	Total Repayment	Surplus
I	25000	3000	-2949	-2949	3000	0	-2949
II	25000	3000	14876	5926	3000	8926	5950
III	19074	2289	14876	6637	2289	8926	5950
IV	12438	1493	14876	7433	1493	8926	5950
V	5004	601	14876	5004	601	5605	9271
VI	0	0	39026	0	0	0	39026

Cash Flow Statement

Particulars	I year	II year	III year	IV year	V year	VI year
Cash Inflow						
From Sale of Male Lambs	0	9113	9113	9113	9113	9113
From sale of Female Lambs	0	4113	4113	4113	4113	4113
From sale of culled Ewes	0	4600	4600	4600	4600	4600
From sale of manures	728	728	728	728	728	728
From Residual value						24150
Total Cash Inflow	728	18553	18553	18553	18553	42703
Outflow						
Cost of feeding						
a.Ewes	1800	1800	1800	1800	1800	1800
b.Ram	120	120	120	120	120	120
c. Lambs	194	194	194	194	194	194
Insurance cost	980	980	980	980	980	980
Veterinary aid	582	582	582	582	582	582
Total Outflow	3676	3676	3676	3676	3676	3676
Net Cash Inflow	-2949	14876	14877	14876	14876	39026

Financial Analysis of the Project

Particulars	I year	II year	III year	IV year	V year	VI year
Capital Investment	34000					
Working Capital	3676	3676	3676	3676	3676	3676
Total Cost	37676	3676	3676	3676	3676	3676
Total Benefit	728	18553	18553	18553	18553	42703
Net Cash Flow	-36949	14876	14877	14876	14876	39026
DCF at 20%	0.833	0.694	0.579	0.482	0.402	0.335
Disc. Benefit	606	12884	10737	8947	7456	14301
Disc.cost	31397	2553	2128	1773	1477	1231
NPV at 20% DCF	-30791	10331	8609	7174	5978	13070
DCF at 25%	0.800	0.640	0.512	0.410	0.328	0.262
Disc. Benefit	582	11874	9499	7599	6079	11194
Disc.cost	30141	2353	1882	1506	1205	964
NVP at 25% DCV	-29559	9521	7617	6093	4875	10230
NPV at 20%	14371			B:C ratio at 20%		1.354
NPV at 25%	8777			B:C ratio at 25%		1.231
IRR	37%					

Discussion

Veterinarian have to derive this farm income expenditure assessment on the bank platform in front of the farmer and banker, which is sometimes very discomfortable to do all the laborious, tricky, confusing, time consuming calculations for his sake in a less time. The spreadsheet on the following page provides a quantitative assessment of all the needed steps. A spreadsheet is a computer application that simulates an accounting worksheet. It displays multiple cells which together make up a grid comprising of rows and columns. It can be used to store, process, analyze and graphically represent data. A formula entered in a cell in the spreadsheet defines how the content of that cell is to be calculated from the contents of any other cell(s) each time the content of the other cell(s) is updated.

Conclusion

The difficulty which usually concerns veterinarians at banks is the assessment of a good quality detailed project report. However we regularly assess it based on the said conventional method at our college extension labs, we often encountered various problems which were listed below: 1. The calculations involved in the assessment are time consuming, tricky and laborious. 2. The calculations appear confusing when reviewed at a later date. 3. It is often difficult to explain to the banker or in the thesis or discussions how a final figure was arrived at. With a goal to simplify the calculation, we have explored the possibility of adapting the conventional method to a spreadsheet. With this, the calculations happen automatically and they are reproducible in the form of a printout which can easily explain how the final figure was arrived at in case of bankable

Saimahesh Reddy Avula et. al. / Detailed Project Report (DPR) of Sheep Husbandry as a Source of
Indian Meat Industry Depicted by Powerful Spreadsheet Programming

21

loan documentations. The spreadsheet makes the whole process of assessment faster and user friendly. The program was thoroughly tested for the entire range of values which are possible. One representative study was also presented to help understand the applicability of this program. The designed spreadsheet was checked the accuracy of spreadsheet program (Fig.1) for the extremes of values in the assessments.

References

1. http://office.microsoft.com/en.us/excel.

Red Flower Publication Pvt. Ltd.

Presents its Book Publications for sale

1. Breast Cancer: Biology, Prevention and Treatment   **Rs.395/$100**

2. Child Intelligence   **Rs.150/$50**

3. Pediatric Companion   **Rs.250/$50**

Order from

Red Flower Publication Pvt. Ltd.

48/41-42, DSIDC, Pocket-II, Mayur Vihar, Phase-I

Delhi - 110 091 (India)

Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205

E-mail: redflowerppl@gmail.org, redflowerppl@vsnl.net

Website: www.rfppl.co.in